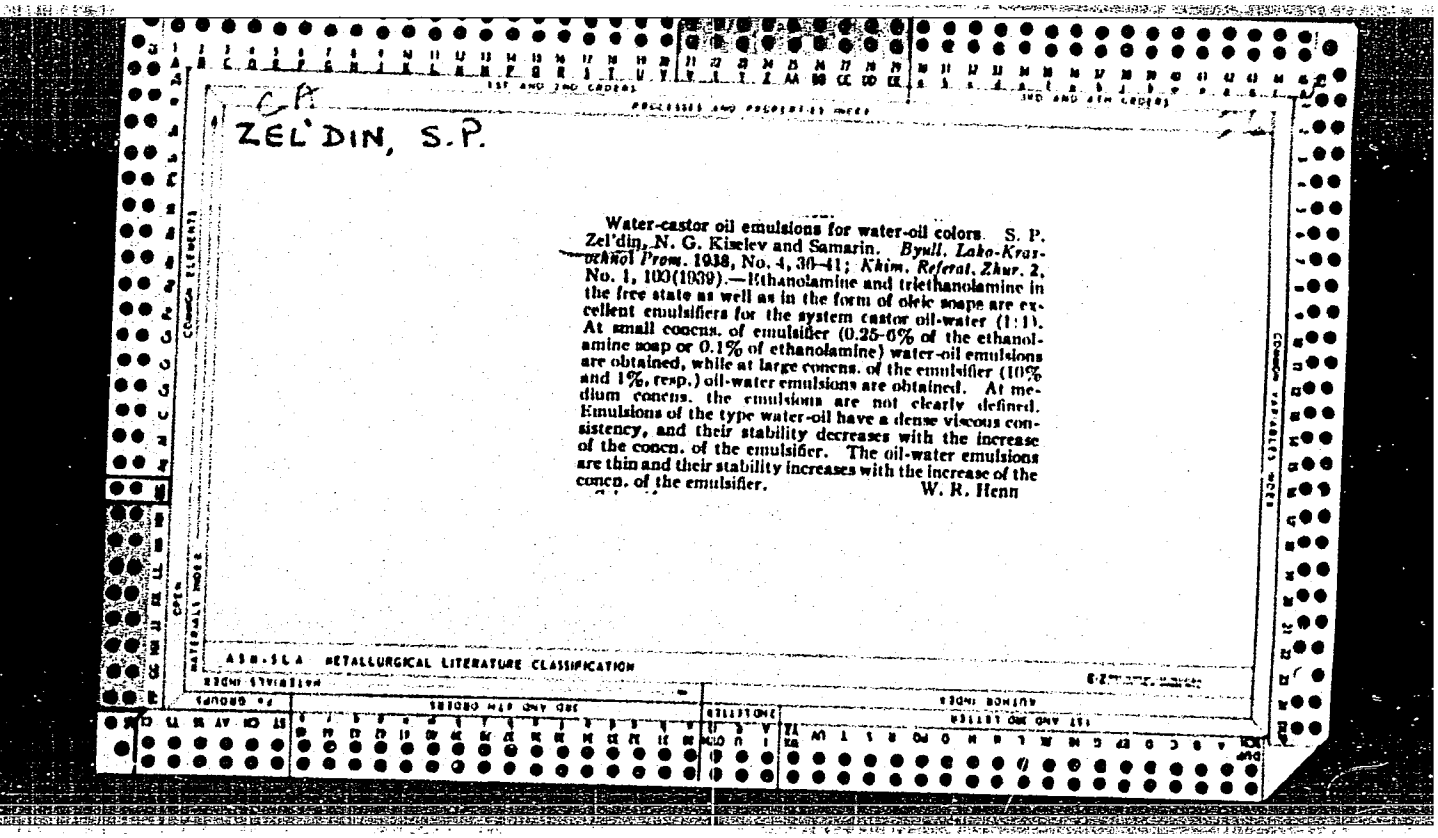


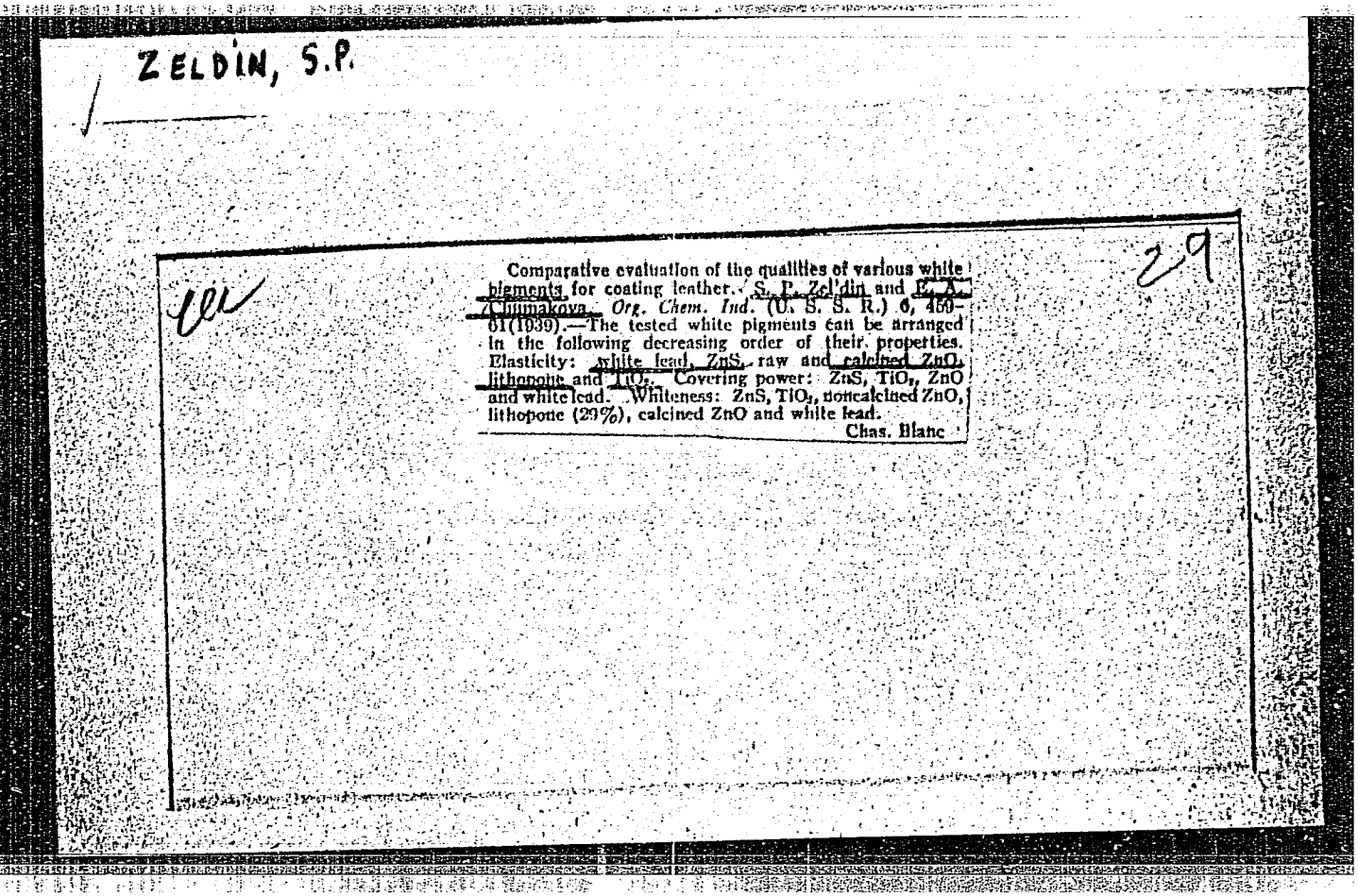
CA

ZEL'DIN, S.P.

Water-castor oil emulsions for water-oil colors. S. P. Zel'din, N. G. Kiselev and Samarin. *Byull. Lako-Krasochnoi Prom.* 1938, No. 4, 30–41; *Khim. Referat. Zhur.* 2, No. 1, 100(1939).—Ethanolamine and triethanolamine in the free state as well as in the form of oleic soaps are excellent emulsifiers for the system castor oil-water (1:1). At small concns. of emulsifier (0.25–6% of the ethanolamine soap or 0.1% of ethanolamine) water-oil emulsions are obtained, while at large concns. of the emulsifier (10% and 1%, resp.) oil-water emulsions are obtained. At medium concns. the emulsions are not clearly defined. Emulsions of the type water-oil have a dense viscous consistency, and their stability decreases with the increase of the concn. of the emulsifier. The oil-water emulsions are thin and their stability increases with the increase of the concn. of the emulsifier.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



ZELDIN, S.P.

29

Comparative evaluation of the qualities of various white pigments for coating leather. S. P. Zel'din and E. A. Chumakova. *Org. Chem. Ind.* (U. S. S. R.) 6, 459–61(1939).—The tested white pigments can be arranged in the following decreasing order of their properties. Elasticity: white lead, ZnS, raw and calcined ZnO, lithopone and TiO_2. Covering power: ZnS, TiO_2, ZnO and white lead. Whiteness: ZnS, TiO_2, noncalcined ZnO, lithopone (29%), calcined ZnO and white lead.

Chas. Blanc

ZELDIN, S.P.

Experiments with emulsion paints. S. P. Zel'din. *Byull. Lako-Krasochnoi Prom.* 1938, No. 4, 35–6; *Khim. Referat. Zhur.* 2, No. 1, 190–1 (1939).—Paints prepd. with lithopone on a water-castor oil emulsion preserve their white shade much better than those prepd. with linseed oil. Green paints and carbon-black paints dry much faster when prepd. with a water-castor oil emulsion than with linseed oil. The emulsion black has a greater luster. Painting of the wooden platforms of trucks with the emulsion paints (on casein base as well as without it) gave satisfactory results. W. R. Henn

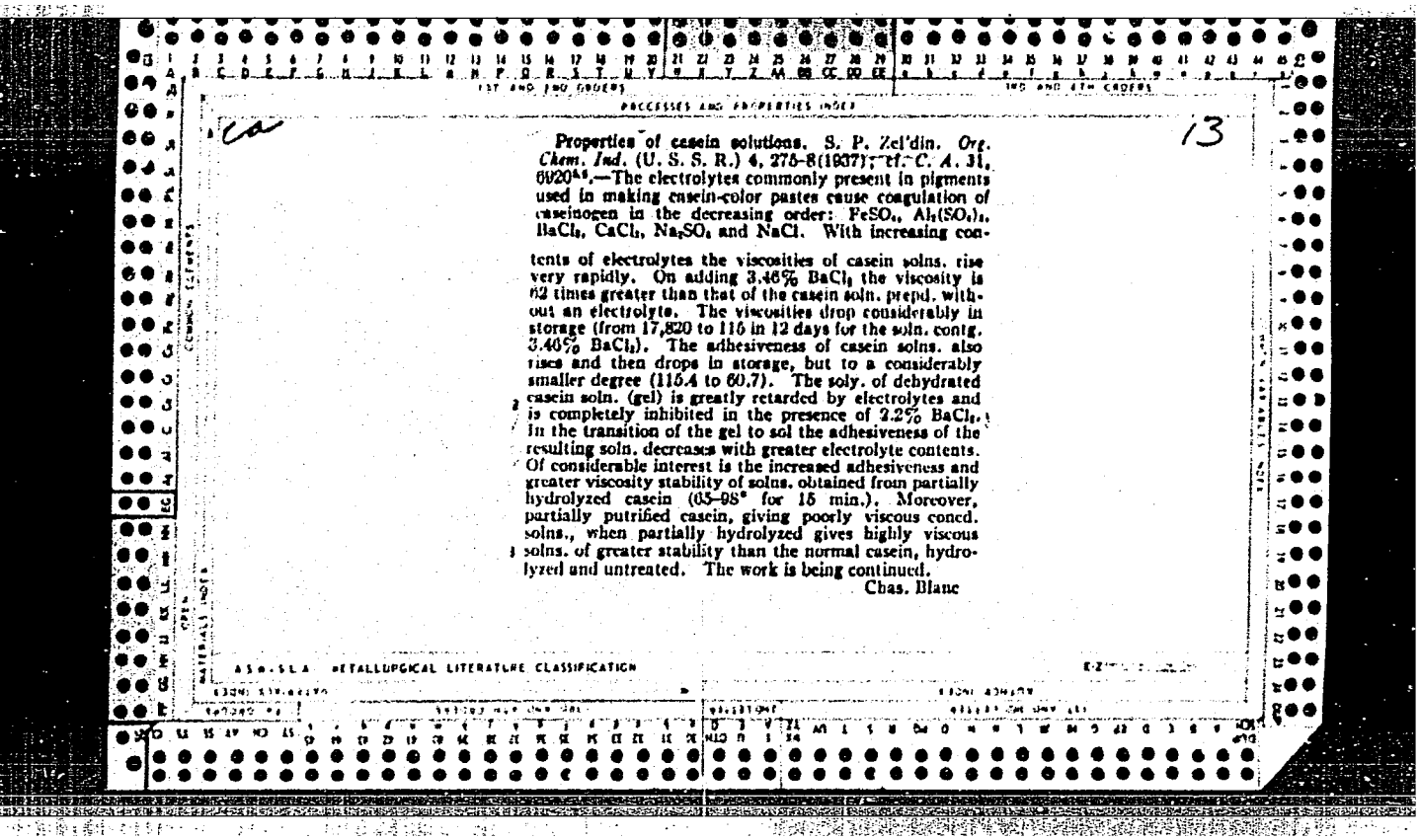
ZEL'DIN, S. P.

Casein priming base for wood. S. P. Zel'din. *Org. Chem. Ind.* (U. S. S. R.) 5, 51(1938).—A mixt. of 100 g. dry casein, 3.5-4.5 g. NaOH, 4.5-5.5 g. PhOH, 300-600 g. pigments (mineral and org.) and 20-40 g. alizarin oil was used as a prime base for oil and lacquer paints on wood. It prevents blistering and swelling of veneer finish, dries quickly and reduces the required no. of varnish coatings.

Chas. Blanc

ZEL'IN, S. P.

Experiments with emulsion paints. S. P. Zel'din. *Ryall. Lako-Krasochnoi Prom.* 1938, No. 4, 35-6; *Khim. Referat. Zhur.* 2, No. 1, 190-1(1939).—Paints prepd. with lithopone on a water-castor oil emulsion preserve their white shade much better than those prepd. with linseed oil. Green paints and carbon-black paints dry much faster when prepd. with a water-castor oil emulsion than with linseed oil. The emulsion black has a greater luster. Painting of the wooden platforms of trucks with the emulsion paints (on casein base as well as without it) gave satisfactory results. W. R. Henn



PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

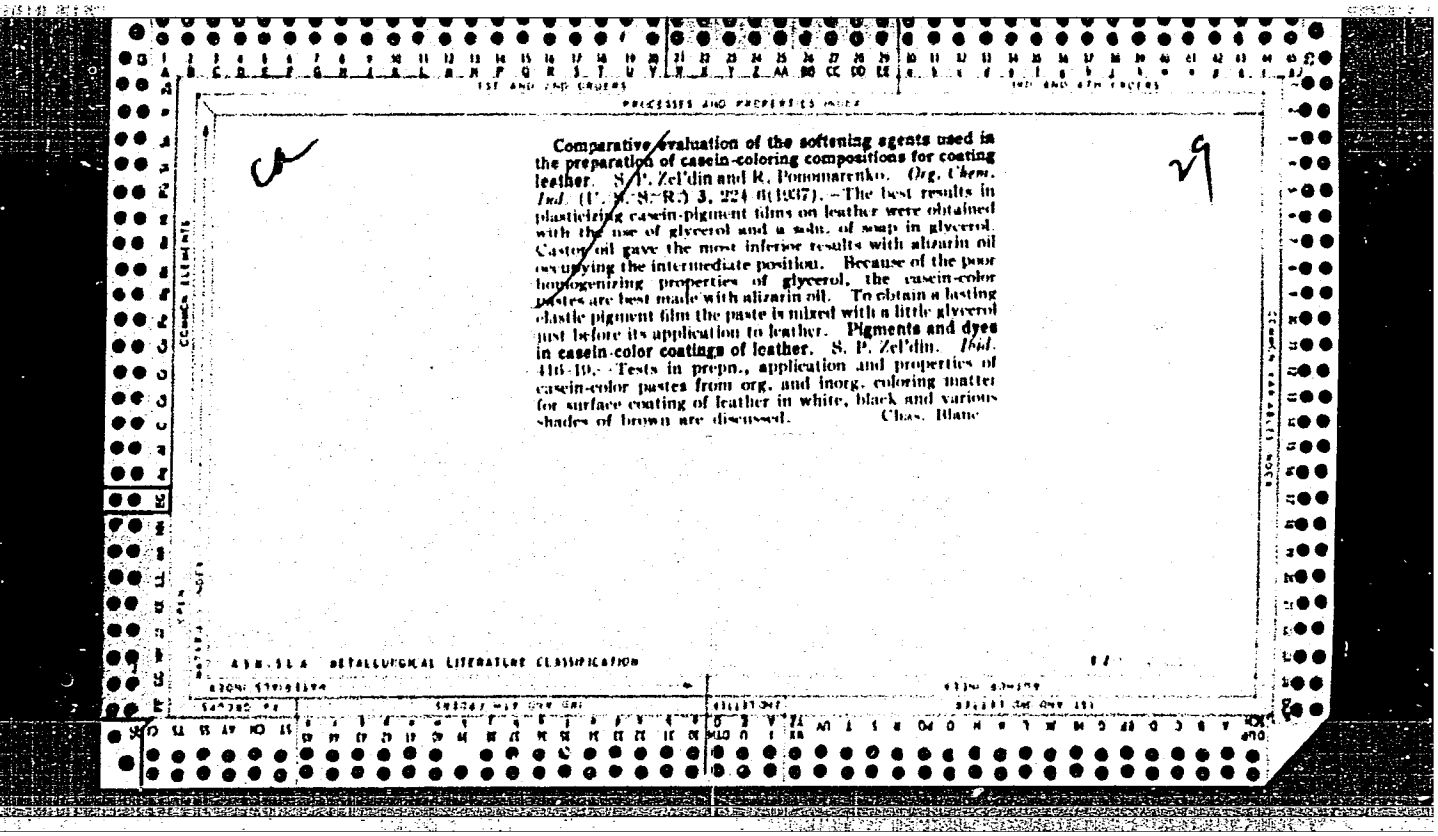
Ca

13

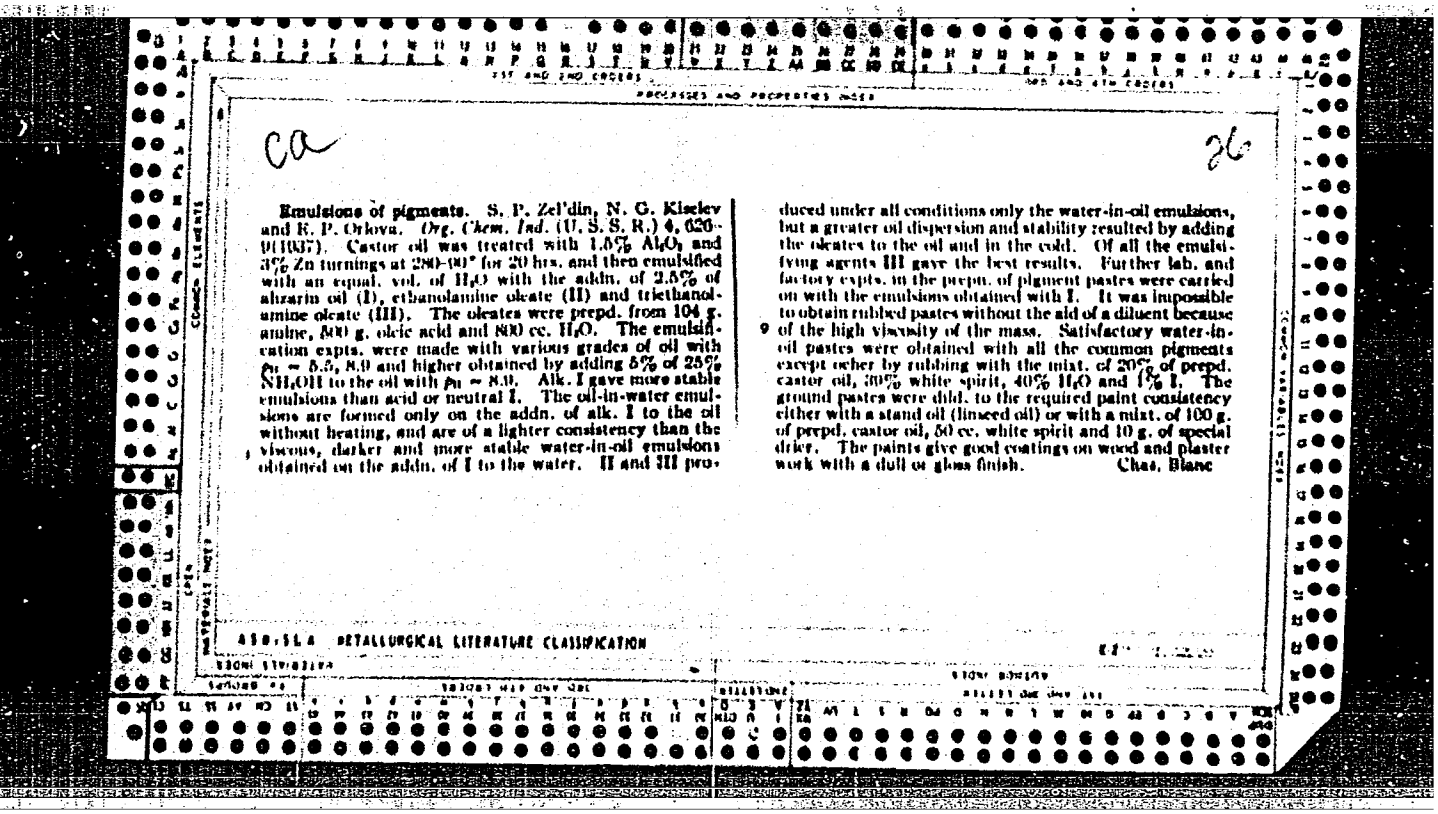
Properties of casein solutions. S. P. Zel'din. *Org. Chem. Ind.* (U. S. S. R.) 4, 276–8(1937); cf. *C. A.* 31, 6920[4].—The electrolytes commonly present in pigments used in making casein-color pastes cause coagulation of caseinogen in the decreasing order: $FeSO_4$, $Al_2(SO_4)_3$, $BaCl_2$, $CaCl_2$, Na_2SO_4 and NaCl. With increasing contents of electrolytes the viscosities of casein solns. rise very rapidly. On adding 3.46% $BaCl_2$ the viscosity is 62 times greater than that of the casein soln. prepd. without an electrolyte. The viscosities drop considerably in storage (from 17,820 to 116 in 12 days for the soln. contg. 3.46% $BaCl_2$). The adhesiveness of casein solns. also rises and then drops in storage, but to a considerably smaller degree (116.4 to 60.7). The soly. of dehydrated casein soln. (gel) is greatly retarded by electrolytes and is completely inhibited in the presence of 2.2% $BaCl_2$. In the transition of the gel to sol the adhesiveness of the resulting soln. decreases with greater electrolyte contents. Of considerable interest is the increased adhesiveness and greater viscosity stability of solns. obtained from partially hydrolyzed casein (65–98° for 15 min.). Moreover, partially putrified casein, giving poorly viscous concd. solns., when partially hydrolyzed gives highly viscous solns. of greater stability than the normal casein, hydrolyzed and untreated. The work is being continued.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Comparative evaluation of the softening agents used in the preparation of casein-coloring compositions for coating leather. S. P. Zel'din and R. Ponomarenko. *Org. Chem. Ind.* (U. S. S. R.) 3, 224 ff (1937). —The best results in plasticizing casein-pigment films on leather were obtained with the use of glycerol and a soln. of soap in glycerol. Castor oil gave the most inferior results with alizarin oil occupying the intermediate position. Because of the poor homogenizing properties of glycerol, the casein-color pastes are best made with alizarin oil. To obtain a lasting elastic pigment film the paste is mixed with a little glycerol just before its application to leather. **Pigments and dyes in casein-color coatings of leather.** S. P. Zel'din. *Ibid.* 416-19. —Tests in prepn., application and properties of casein-color pastes from org. and inorg. coloring matter for surface coating of leather in white, black and various shades of brown are discussed. Chas. Blanc

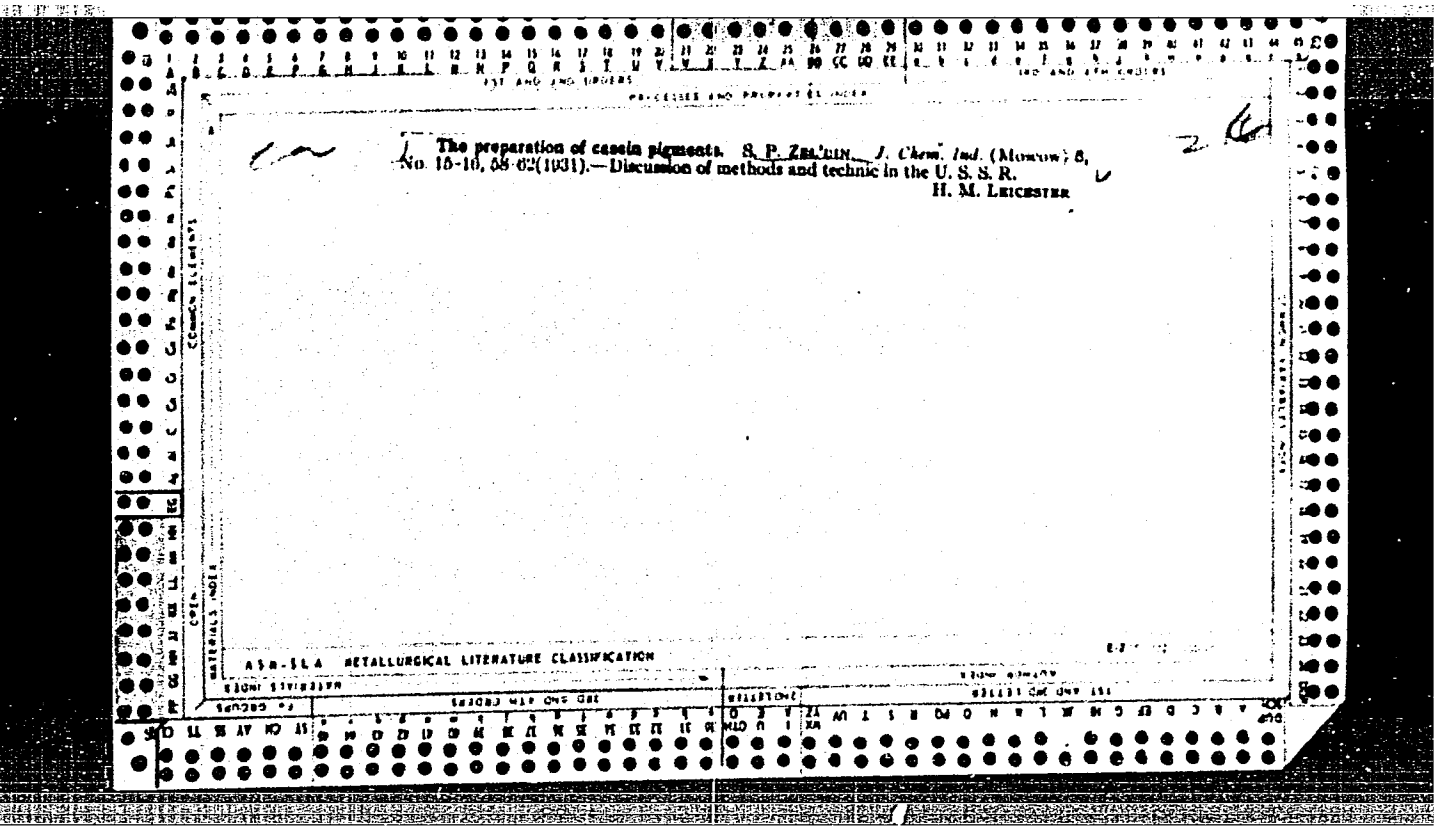


CA

26

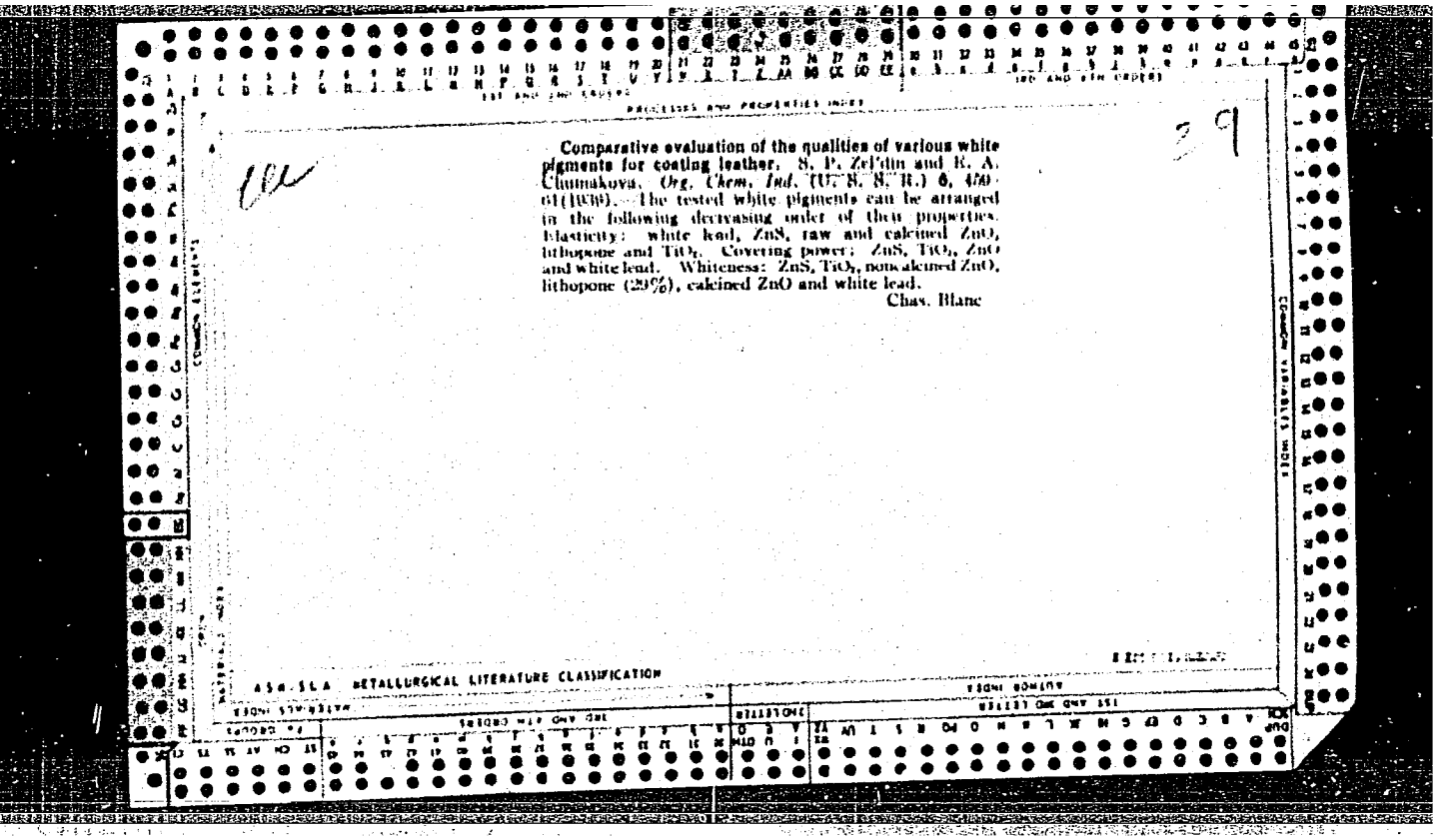
Emulsions of pigments. S. P. Zel'din, N. G. Kiselev and E. P. Orlova. *Org. Chem. Ind.* (U. S. S. R.) 4, 626-9(1937). Castor oil was treated with 1.5% Al_2O_3 and 3% Zn turnings at 280-90° for 20 hrs. and then emulsified with an equal vol. of H_2O with the addn. of 2.5% of alizarin oil (I), ethanolamine oleate (II) and triethanolamine oleate (III). The oleates were prepd. from 104 g. aniline, 800 g. oleic acid and 800 cc. H_2O. The emulsification expts. were made with various grades of oil with p_H = 5.5, 8.0 and higher obtained by adding 5% of 25% NH_4OH to the oil with p_H = 8.0. Alk. I gave more stable emulsions than acid or neutral I. The oil-in-water emulsions are formed only on the addn. of alk. I to the oil without heating, and are of a lighter consistency than the viscous, darker and more stable water-in-oil emulsions obtained on the addn. of I to the water. II and III produced under all conditions only the water-in-oil emulsions, but a greater oil dispersion and stability resulted by adding the oleates to the oil and in the cold. Of all the emulsifying agents III gave the best results. Further lab. and factory expts. in the prepn. of pigment pastes were carried on with the emulsions obtained with I. It was impossible to obtain rubbed pastes without the aid of a diluent because of the high viscosity of the mass. Satisfactory water-in-oil pastes were obtained with all the common pigments except ocher by rubbing with the mixt. of 20% of prepd. castor oil, 30% white spirit, 40% H_2O and 1% I. The ground pastes were dild. to the required paint consistency either with a stand oil (linseed oil) or with a mixt. of 100 g. of prepd. castor oil, 50 cc. white spirit and 10 g. of special drier. The paints give good coatings on wood and plaster work with a dull or gloss finish. Chas. Blanc

A 5 0 . 5 L A METALLURGICAL LITERATURE CLASSIFICATION



The preparation of casein pigments. S. P. ZEL'DIN. *J. Chem. Ind.* (Moscow) 8, No. 15-16, 58-62(1931).—Discussion of methods and technic in the U. S. S. R.
H. M. LEICESTER

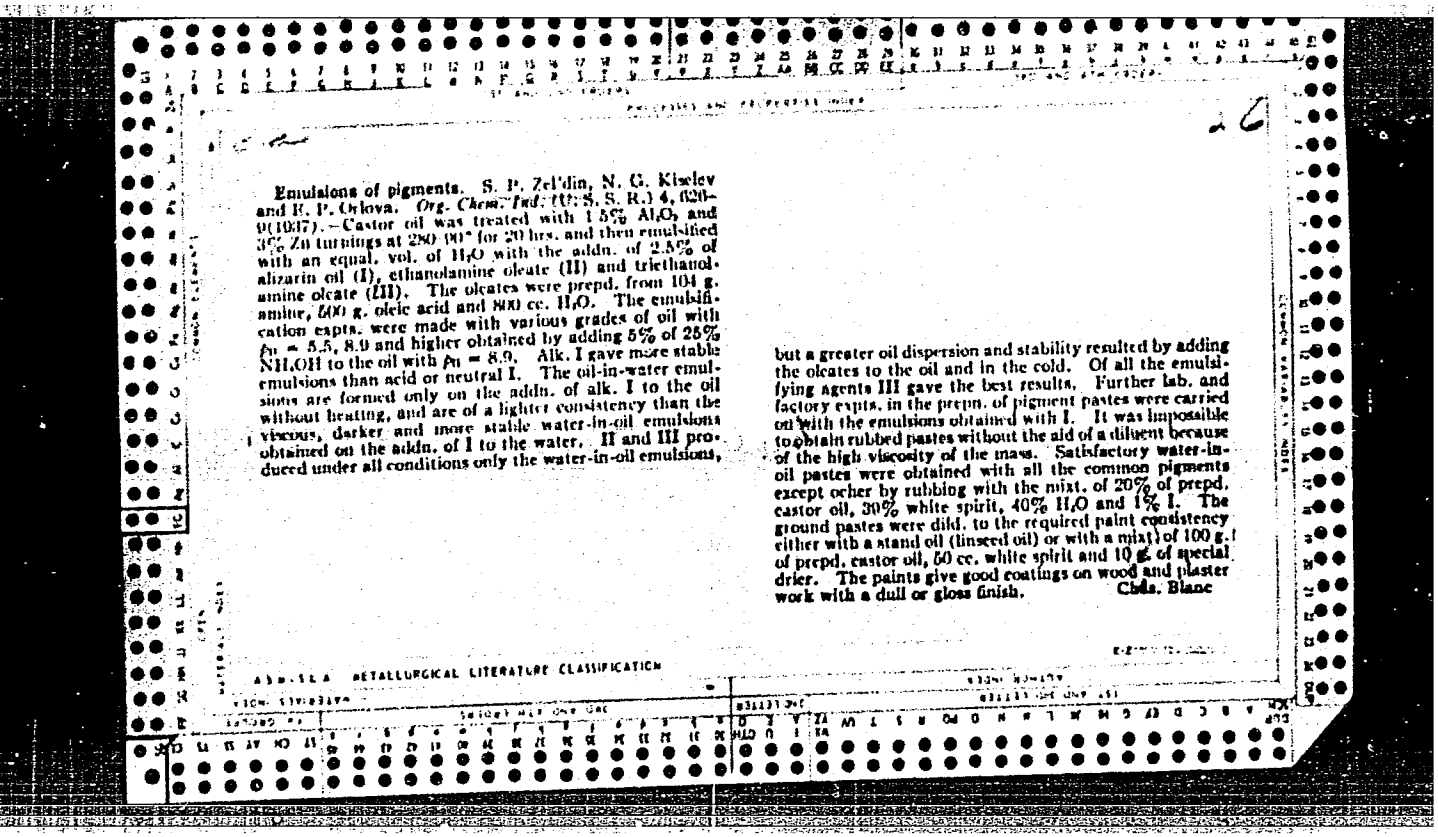
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Comparative evaluation of the qualities of various white pigments for coating leather. S. P. Zel'din and E. A. Chumakova. *Org. Chem. Ind.* (U. S. S. R.) 6, 459-61(1938). The tested white pigments can be arranged in the following decreasing order of their properties. Elasticity: white lead, ZnS, raw and calcined ZnO, lithopone and TiO_2. Covering power: ZnS, TiO_2, ZnO and white lead. Whiteness: ZnS, TiO_2, noncalcined ZnO, lithopone (20%), calcined ZnO and white lead.

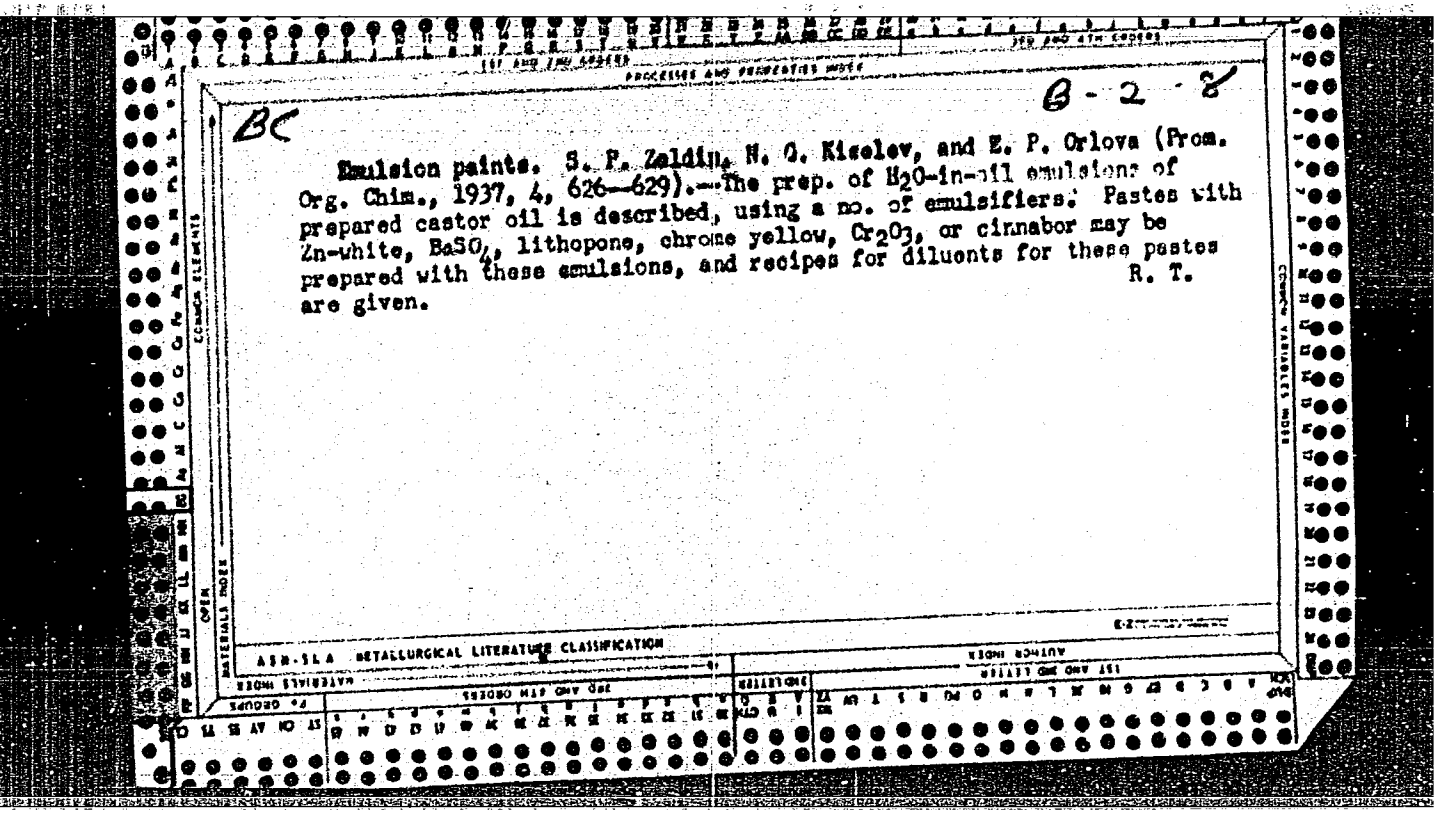
Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Emulsions of pigments. S. P. Zel'din, N. G. Kiselev and E. P. Orlova. *Org. Chem. Ind.* (U.S.S.R.) 4, 620–9(1937).—Castor oil was treated with 1.5% Al_2O_3 and 3% Zn turnings at 280–90° for 20 hrs. and then emulsified with an equal vol. of H_2O with the addn. of 2.5% of alizarin oil (I), ethanolamine oleate (II) and triethanolamine oleate (III). The oleates were prepd. from 104 g. amine, 600 g. oleic acid and 800 cc. H_2O. The emulsification expts. were made with various grades of oil with p_H = 5.5, 8.9 and higher obtained by adding 5% of 25% NH_4OH to the oil with p_H = 8.9. Alk. I gave more stable emulsions than acid or neutral I. The oil-in-water emulsions are formed only on the addn. of alk. I to the oil without heating, and are of a lighter consistency than the viscous, darker and more stable water-in-oil emulsions obtained on the addn. of I to the water. II and III produced under all conditions only the water-in-oil emulsions, but a greater oil dispersion and stability resulted by adding the oleates to the oil and in the cold. Of all the emulsifying agents III gave the best results. Further lab. and factory expts. in the prepn. of pigment pastes were carried out with the emulsions obtained with I. It was impossible to obtain rubbed pastes without the aid of a diluent because of the high viscosity of the mass. Satisfactory water-in-oil pastes were obtained with all the common pigments except ocher by rubbing with the mixt. of 20% of prepd. castor oil, 30% white spirit, 40% H_2O and 1% I. The ground pastes were dild. to the required paint consistency either with a stand oil (linseed oil) or with a mixt. of 100 g. of prepd. castor oil, 50 cc. white spirit and 10 g. of special drier. The paints give good coatings on wood and plaster work with a dull or gloss finish. Chds. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



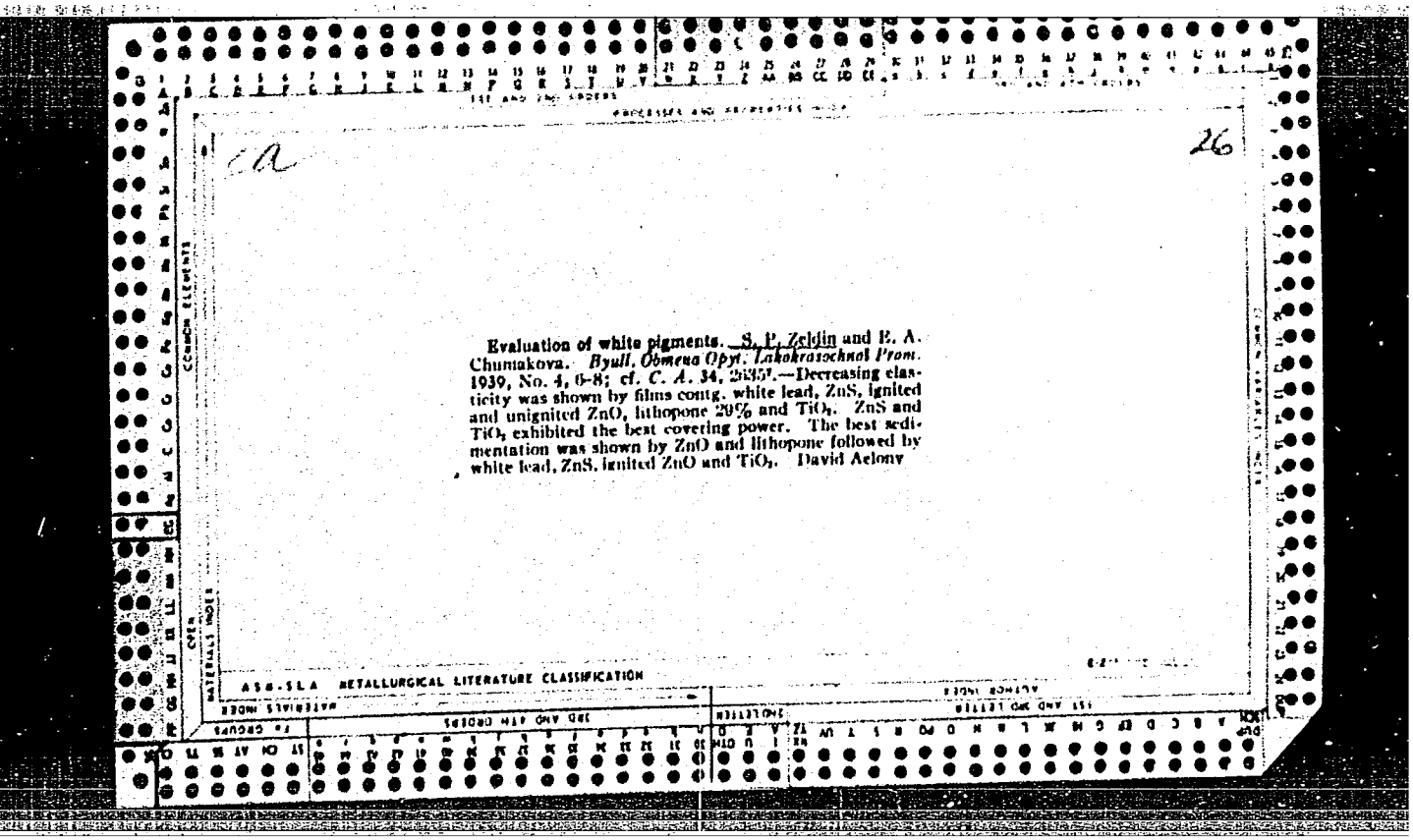
B-2-8

BC

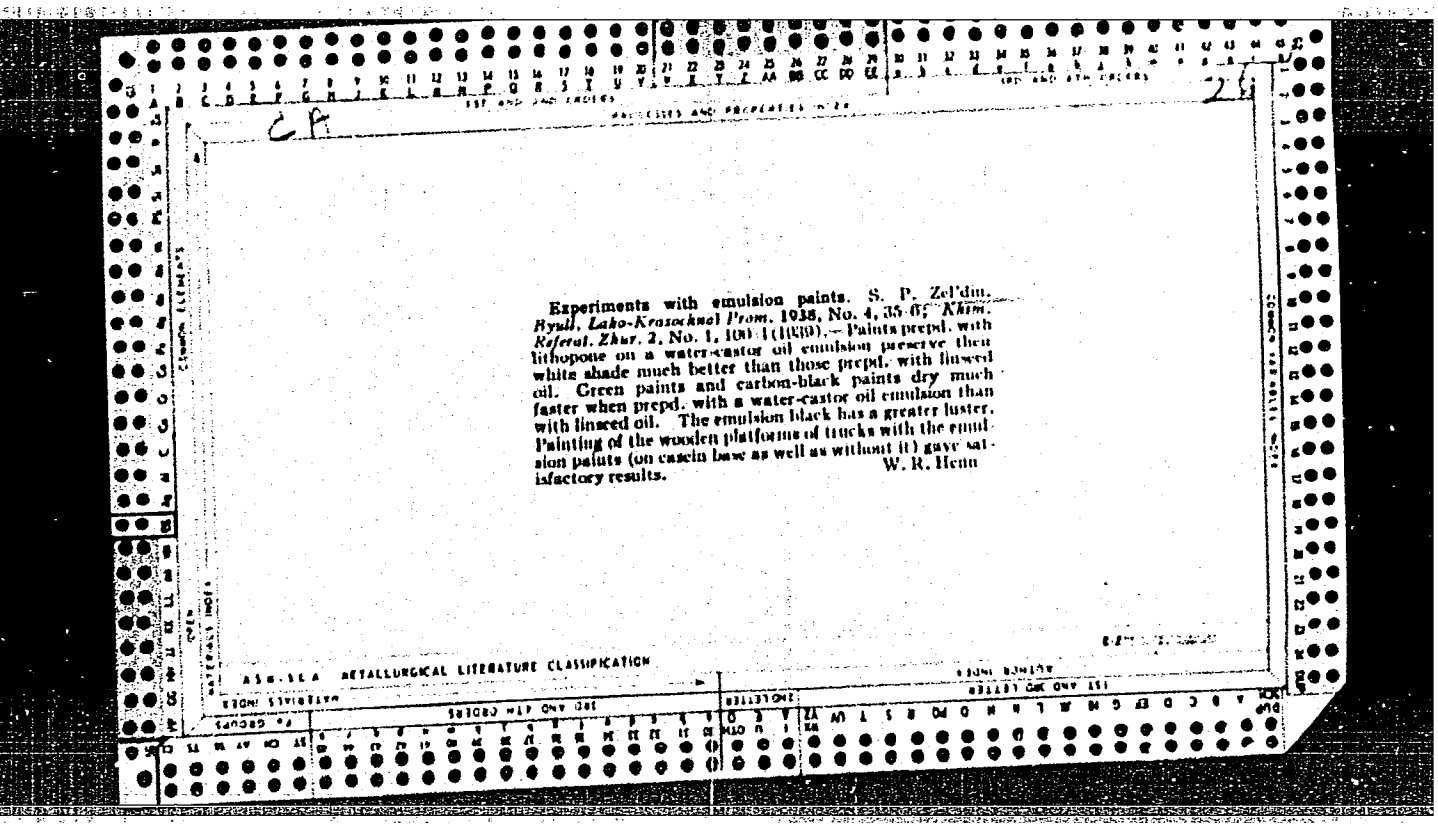
Emulsion paints. S. F. Zaldin, N. O. Kiselev, and E. P. Orlova (Prom. Org. Chim., 1937, 4, 626—629).—The prep. of H_2O-in-oil emulsions of prepared castor oil is described, using a no. of emulsifiers. Pastes with Zn-white, $BaSO_4$, lithopone, chrome yellow, Cr_2O_3, or cinnabor may be prepared with these emulsions, and recipes for diluents for these pastes are given. R. T.

Optimum temperature for dissolving casein. S. P. Zel'din and E. P. Orlova. *Byull. Obmena Opyt. Lakokrasochnoi Prom.* 1939, No. 6-7, 28.—Z. and O. propose to dissolve casein at 65-85° instead of at 30-40°. They claim a 3-4-fold rate of soln., better stability of solns. and better elasticity. David Aelong

METALLURGICAL LITERATURE CLASSIFICATION

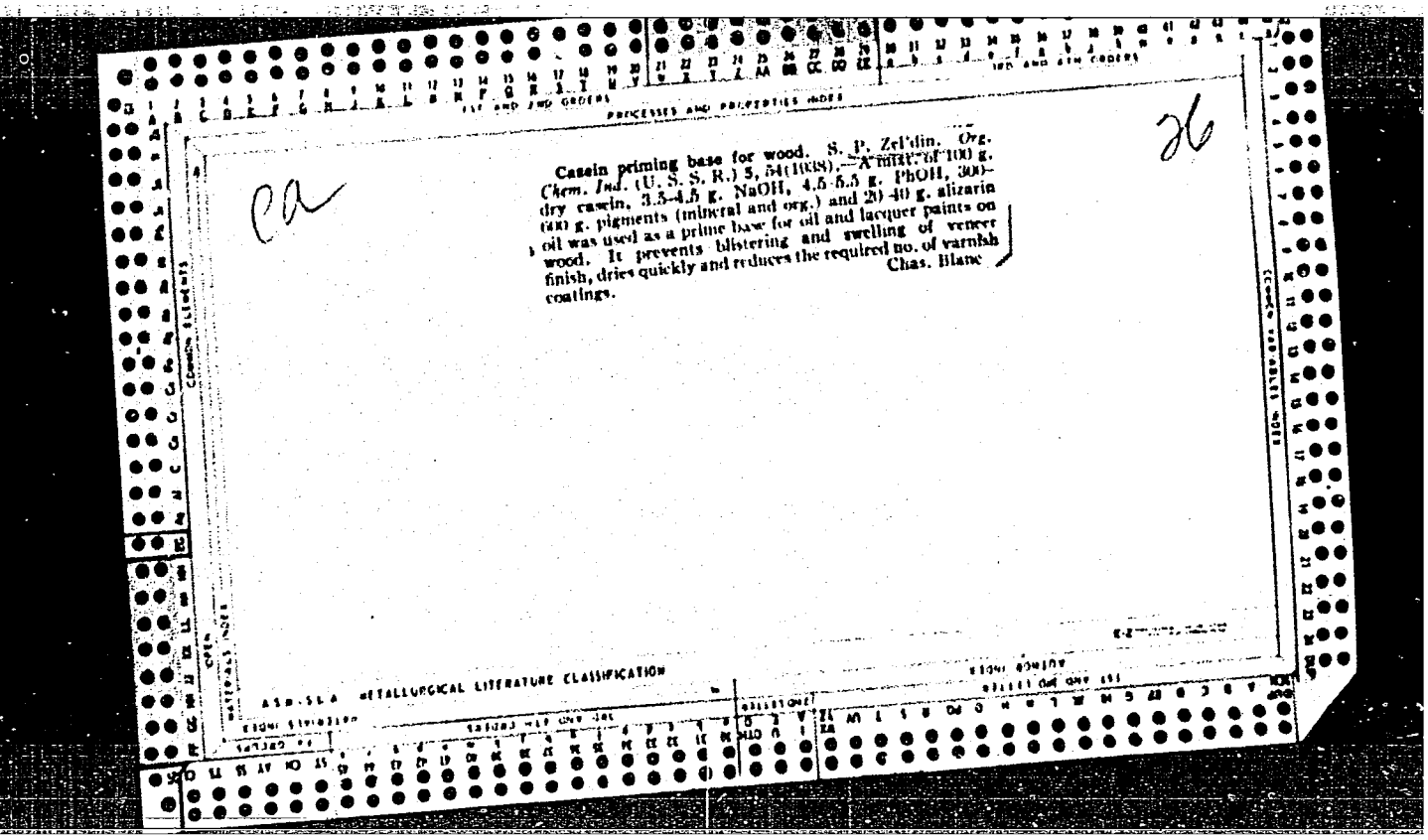


Evaluation of white pigments. S. P. Zeldin and E. A. Chumakova. *Byull. Obmena Opyt. Lakokrasochnol Prom.* 1939, No. 4, 6-8; cf. *C. A.* 34, 2355⁷.—Decreasing elasticity was shown by films contg. white lead, ZnS, ignited and unignited ZnO, lithopone 29% and TiO_2. ZnS and TiO_2 exhibited the best covering power. The best sedimentation was shown by ZnO and lithopone followed by white lead, ZnS, ignited ZnO and TiO_2. David Aelony

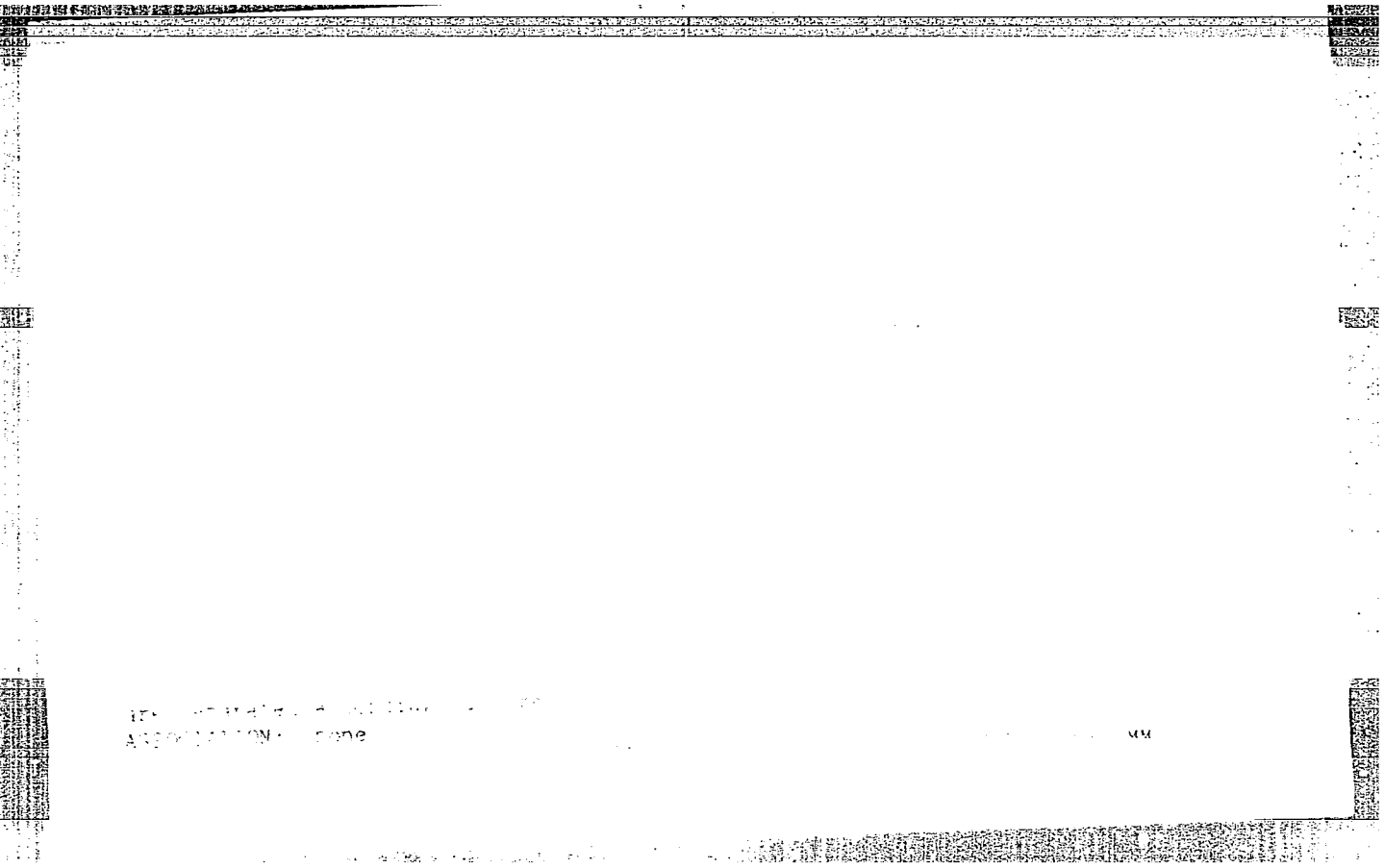


Experiments with emulsion paints. S. P. Zel'din. *Rysil. Lako-Krasochnol Prom.* 1935, No. 4, 35-6; *Khim. Referat. Zhur.* 2, No. 1, 101-1(1938).—Paints prepd. with lithopone on a water-castor oil emulsion preserve their white shade much better than those prepd. with linseed oil. Green paints and carbon-black paints dry much faster when prepd. with a water-castor oil emulsion than with linseed oil. The emulsion black has a greater luster. Painting of the wooden platforms of trucks with the emulsion paints (on casein base as well as without it) gave satisfactory results.

W. R. Henn



Casein priming base for wood. S. P. Zel'din. *Org. Chem. Ind.* (U. S. S. R.) 5, 54(1938).—A mixt. of 100 g. dry casein, 3.5–4.5 g. NaOH, 4.5–6.5 g. PhOH, 300–400 g. pigments (mineral and org.) and 20–40 g. alizarin oil was used as a prime base for oil and lacquer paints on wood. It prevents blistering and swelling of veneer finish, dries quickly and reduces the required no. of varnish coatings.
Chas. Blanc



ZEL'DIN, V.S., inzh.; DEKHANOV, N.M., inzh.; BOYTSOV, L.I., inzh.; SARANKIN, V.A., inzh.

Experience in the industrial application of nonfluxed manganese sinter for the smelting of 82% silicomanganese. Stal' 25 no.8: 718 Ag '65. (MIRA 18:8)

KHITRIK, S.I., doktor tekhn. nauk; DEKHANOV, N.M., inzh.; SARANKIN, V.A., inzh.; ZEL'DIN, V.S., inzh.; BELIKOV, Yu.V., inzh.

Making manganese metal on a phosphorous-free slag from first-grade Nikopol' manganese ore. Met. i gornorud. prom. no.5:66-68 S-O '63. (MIRA 16:11)

ZEL'DIN, V.S., inzh; VLASENKO, V.Ye., inzh.

Pyrometallurgical dephosphorization of manganese ores. (MIRA 15:10)
Stal' 22 no.10:917-918 O'62.
(Manganese--Metallurgy)

ZEL'DIN, V.S.; SARANKIN, V.A.

Accelerating the metal manganese smelting process by blowing the bath with inert gases. Stal' 23 no.1:54-55 Ja '63. (MIRA 16:2)

1. Zaporozhskiy zavod ferrosplavov.
(Manganese—Metallurgy)

S/133/63/000/001/006/011
A054/A126

AUTHORS: Zel'din, V. S., Sarankin, V. A.

TITLE: Intensification of metallic manganese smelting by blowing inert gases into the bath

PERIODICAL: Stal', no. 1, 1963, 54 - 55

TEXT: It is known that silicomanganese, upon penetrating through the slag layer is not completely cleaned from silicon and that at the bottom a metal layer forms which contains 3 - 5% Si. Based on the experience that during tapping the silicon content of the metal is reduced by 0.3 - 0.6%, tests were carried out to obtain manganese with a low silicon content by vigorous stirring of the bath. For this purpose the smelting metal was blown through by argon or nitrogen gas via a reducer under a pressure of 1.5 - 3.0 atm. through a 1/2" diameter pipe. Stirring was started after the last bath of silicomanganese was fed into the furnace. During stirring the furnace was not switched off. The tube was deslagged and set in the bath as deep as the slag-metal contact surface or a little deeper, into the metal. Depending on the silicon content the blowing was repeated 3 - 5 times.

Card 1/2

Intensification of metallic manganese smelting by...

using an average of 1 m^3 per 1 ton of metal. Based on a total of 168 test smeltings the silicon-oxidation rate was found to have increased from 0.9 to 1.56%/hour on the average. The stirring of the bath considerably increased the output of Mp1 (Mr1) grade metal and in general improved the technical-economical parameters. The new method involves smoke-formation which can, however, be eliminated by the application of electromagnetic stirring instead of using gas for this purpose. There is 1 figure.

ASSOCIATION: Zaporozhskiy zavod ferrosplavov (Zaporozh'ye Plant of Ferroalloys)

Card 2/2

SOV/133-59-4-13/32

AUTHORS: Zel'din, V.S. and Ilyushina, L.G., Engineers

TITLE: Improvement in the Production of Metallic Manganese (Usovershenstvovaniye proizvodstva metallicheskogo margantsa)

PERIODICAL: Stal', 1959, Nr 4, pp 333-335 (USSR)

ABSTRACT: A brief outline of the development of the production process of metallic manganese on the Zaporozh'ye Ferro-alloys Works which resulted in a decrease in the cost of production by a factor of 3 (from 1950 to 1958) is given. Main points: 1) the use of tilting furnaces for the production of the liquid conversion slag (composition, %: MnO - 64.0; FeO - 0.60; CaO - 3.75; SiO_2 - 27.0; MgO-1.1; Al_2O_3 - 3.0 and P_2O_5 - 0.023). A part of the flux (quartzite fines) is replaced by slag from the production of merchant silicomanganese CuMn 17, which contains 50% of SiO_2 and 20% of Mn. Changes in the power consumption and in output of the furnaces during 1950-1958 are shown in Fig 1.
2) Smelting of conversion silicomanganese in one stage. Previously 50% silicomanganese was smelted in two stages:

Card 1/3

Improvement in the Production of Metallic Manganese

conversion manganese - silicomanganese; both were made in separate furnaces. From 1953, by tapping silicon manganese into a refractory lined ladle and retention of the metal in the ladle, an increase in the manganese content to 58 - 63% was obtained as surplus carbon was evolved in the form of kish. In 1958 silicomanganese was produced directly without intermediate smelting of conversion manganese (no details). In the near future granulation of silicomanganese will be introduced. Directly produced silicomanganese has the following composition, %: Mn 66 - 69; Si 28 - 30; C 0.05 - 0.08; P 0.030 - 0.035.

3) Metallic manganese is produced from conversion liquid slag (48% Mn), lime (90% CaO) and crushed silicomanganese (30% Si) in tilting furnaces operating synchronously with tilting slag furnaces for charging conversion slag in liquid state. Liquid metallic manganese is vacuum treated at a residual pressure of 100 mm Hg. Changes in the power consumption for the production of manganese, increase in productivity and

Improvement in the Production of Metallic Manganese

decrease in the production costs are shown in Fig 2 and 3. There are 3 figures.

ASSOCIATION: Zaporozhskiy Zavod Ferrosplavov i Zaporozhskiy Sovnarkhoz (Zaporozh'ye Ferroalloys Works and Zaporozh'ye Sovnarkhoz)

DEKHANOV, N.M., inzh., otv. red.; KRAVCHENKO, V.A., inzh., zames. otv. red.; RAGULINA, R.I., inzh., red.; YEM, A.P., kand. tekhn. nauk, red.; GASIK, M.I., assisten, red.; ZEL'DIN, V.S., inzh., red.; SAKHAROV, R.S., red.; BELIKOV, Yu.V., inzh., red.; KOCHERGA, N.T., ved. red.; SYCHUGOV, V.G., tekhn. red.

[Development of the iron alloy industry in the U.S.S.R.] Razvitie ferrosplavnoi promyshlennosti SSSR. Kiev, Gos. izd-vo tekhn. lit-ry, USSR, 1961. 243 p. (MIRA 15:4)

1. Ukraine. Gosudarstvennyy nauchno-tekhnicheskiy komitet. Institut tekhnicheskoy informatsii. 2. Zaporozhskiy zavod ferrosplavov (for Dekhanov, Kravchenko, Ragulina). 3. Dnepropetrovskiy metallurgicheskiy institut (for Gasik, Belikov).
(Iron industry)

ZEL'DIN, V.S., inzh.; ILYUSHINA, L.G.

Production of carbon-free ferrochromium in tilting furnaces.
Stal' 21 no.8:711-712 Ag '61. (MIRA 14:9)

1. Zaporozhskiy zavod ferrosplavov i Zaporozhskiy sovnarkhoz.
(Iron-chromium alloys—Metallurgy)

SARANKIN, V.A., inzh.; DEKHANOV, N.M., inzh.; BOYTSOV, L.I., inzh.; ZEL'DIN, V.S., inzh.; CHUPAKHIN, Yu.M., inzh.

Effect of conditions of slag formation on the quality technical and economic indices of the production of carbon-free ferrochromium. Stal' 25 no.10:915-916 O '65. (MIRA 18:11)

1. Zaporozhskiy zavod ferrosplavov.

L 3277-66 EWT(1)/EPA(s)-2
ACCESSION NR: AR5014348 UR/0271/65/000/005/A032/A033
62-52:621.314.26

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 5A222

AUTHOR: Sandler, A. S.; Kudryavtsev, A. V.; Sarbatov, R. S.; Nikol'skiy, A. A.; Zel'din, V. Sh.

TITLE: Static frequency changer with thyristors intended for speed regulation of high-speed induction motors

CITED SOURCE: Tr. Mosk. energ. in-ta, vyp. 56, 1964, 59-74

TOPIC TAGS: frequency changer, induction motor

TRANSLATION: A frequency changer designed with VKDU-20 thyristors consists of a power controlled rectifier, a 3-phase inverter, and a control system that comprises a frequency-setting unit, rectifier and inverter control units, a protection unit, and a supply source. The changer has an output power of 3-kva and a voltage controllable within 26—130 v at frequencies of 200—1000 cps.

Card 1/2

L 3277-66
ACCESSION NR: AR5014348

respectively. Oscillograms are presented of motor voltages and currents under steady-state conditions and also the oscillograms which illustrate starting, braking, and speed regulation of the motor. Cited advantages of the changer are: the possibility of continuous independent control of frequency and voltage, small weight, and small size. Cited disadvantages are: impossibility of efficient generator-type braking and greater installed capacity of equipment at higher (close to 1000 cps) frequencies. Calculation of transformers and coincidence circuit is indicated. Figs. 12, tabs. 2.

SUB CODE: EE ENCL: 00

Card 2/2

ZEL'DIN, V.S.; DREKALOVICH, I.A.

Length of service of magnesite brick in furnaces for smelting manganese alloys. Ogneupory 26 no.6:269-271 '61. (MIRA 14:7)

1. Zaporozhskiy zavod ferrosplavov.
(Fire brick)
(Smelting furnaces)

NIKOLAYEV, V.I.; ZEL'DIN, V.S.; KOVTANYUK, V.M.

New developments in research. Stal' 24 no.2:144 F '64. (MIRA 17:9)

DEKHANOV, N .M.; BOYTSOV, L.I., kand. tekhn. nauk; KRAVCHENKO, V.A., kand. tekhn. nauk; SNEZHKO, P.F.; ZEL'DIN, V.S.; KHARLAMOV, I.G. [deceased]; RUNOV, M.A.; SEREBRENNIKOV, A.A.; MATYUSHENKO, V.I.

Production of high-quality ferrosilicon powder for heavy suspensions. Met. i gornorud. prom. no.4:14-16 Jl-Ag '65. (MIRA 18:10)

SANDLER, A.S., kand.tekhn.nauk; SARBATOV, R.S., inzh.; KUDRYAVTSEV, A.V., inzh.; ZEL'DIN, V.Sh., inzh.; NIKOL'SKIY, A.A., inzh.

Static frequency converters for regulating the speed of asynchronous motors. Vest. elektroprom. 33 no.3:45-51 Mr '62. (MIRA 15:3)
(Frequency regulation) (Electric motors, Induction)

ACC NR: AP6021059 (A,N) SOURCE CODE: UR/0292/66/000/003/0033/0035

AUTHOR: Sandler, A. S. (Professor); Gusyatskiy, Yu. M. (Engineer); Zel'din, V. Sh. (Engineer); Shchukin, G. A. (Engineer)

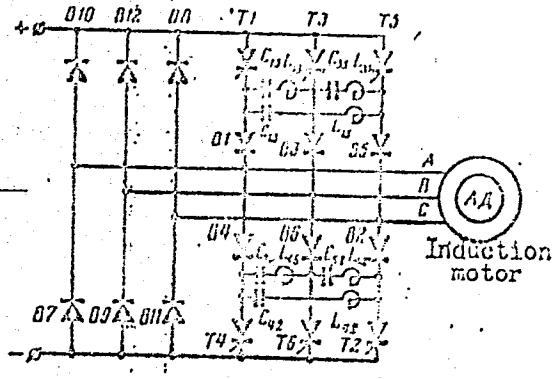
ORG: none

TITLE: Autonomous semiconductor inverter

SOURCE: Elektrotekhnika, no. 3, 1966, 33-35

TOPIC TAGS: semiconductor inverter, dc ac power inverter, electric converter, rotary inverter

ABSTRACT: A modification (see figure) of a power inverter developed earlier by V. F. Shukalov (Trudy LIAP, 1962, no. 36) is described. The distinguishing feature of the new type lies in the fact that the current-limiting reactors are placed in series with the switching capacitors. The switching-process theory is briefly considered. An experimental model of the inverter was



Inverter with LC-circuit switching

Card 1/2

UDC: 621.314.58.313.333.2

L 09934-67
ACC NR: AP6021059

tested in supplying a 220/380-v, 28-kw induction motor at 5, 10, 30, and 50 cps; speed-torque characteristics are shown. These findings are reported: (1) The inverter with oscillatory switching circuits is a practical device which can be used for supplying induction motors up to 20—30-kw capacity; (2) Placing the current-limiting reactors in the switching circuits has resulted in (a) reduction of size and weight of the inverter and (b) lower rate of rise of current in thyristors. Orig. art. has: 5 figures and 13 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 001

ZEL'DIN, Ye., inzh. (Leningrad)

A hybrid stage. Radio no.5:41 My '65. (MIRA 18:5)

9(2) SOV/115-59-9-14/37

AUTHOR: Zel'din, Ye. A.

TITLE: Measuring the RPM Number Without Loading the Shaft

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 9, pp 28-29 (USSR)

ABSTRACT: A device for measuring the rpm number by a photoelectric method without loading the shaft was developed at TsNII imeni Krylov. This device will measure up to 7,000 rpm with an error of ± 1 rpm and may be manufactured in any workshop. Black and white stripes are applied to the shaft whose rpm is to be measured. A lamp, 12 volts, 15 watts, and a FS-A1 or FS-D1 photoresistor are mounted in tubes which are covered by short-focus lenses. When the shaft is turned, the photoresistor will produce pulses of a frequency equal to the rpm number which are counted by a SB-1m/100 electromechanical counter within a predetermined time interval. An ordinary alarm clock, equipped with special contacts will serve as timer and will actuate a blocking generator. The counter

Card 1/2

Measuring the RPM Number Without Loading the Shaft

capacity limits the maximum rpm which may be measured with this type of device.

Card 2/2

ZEL'DIN, Yevsey Aronovich; IVANOV, B.N., red.; VASIL'YEV, Yu.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Impulse-type gas discharge lamps and their use]Gazorazriadnye impul'snye lampy i ikh primenenie; stenogramma lektsii. Leningrad, 1961. 34 p. (MIRA 16:2)

(Electric lamps)

ZEL'DIN, Ye., inzh. (g.Leningrad)

Electronic time relay. Radio no.2:21-22 F '61. (MIRA 14:9)
(Electric relays)

GORSHKOV, Aleksey Stepanovich; RUSETSKIY, Aleksandr Alekseyevich. Prinimal uchastiye ZEL'DIN, Ye.A.; SHMYREV, A.N., kand. tekhn. nauk, retsenzent; ROZHDESTVENSKIY, V.N., dots., retsenzent; IVANOV, A.N., kand. tekhn. nauk, nauchnyy red.; KAZAROV, Yu.S., red.; SHISHKOVA, L.M., tekhn. red.

[Cavitation pipes]Kavitatsionnye truby. Leningrad, Sudpromgiz, 1962. 165 p. (MIRA 16:2)

(Cavitation)

S/194/62/000/007/029/160
D295/D308

AUTHOR: Zel'din, Ye.

TITLE: Time relay

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 7-2-17 a (Sov. foto, no. 1, 1962, 28)

TEXT: An electronic time relay is described for use in large-scale and color-photograph printing to ensure high accuracy and stability of timing. The time relay provides, in addition to automatic control, facilities for manual switching. The delays range from 0.2 to 60 sec. On one scale (the 'units' scale) delays from 0.2 to 11 sec. are set; on the other (the 'tens' scale), the remaining 50 sec., by 10 sec. steps. The device can be fed from 127 and 220 V mains, and has a power consumption of about 5 W. The time relay has four pairs of contacts connected in series-parallel groups (2 pairs each) which eliminates spark wear of the contacts for amplifier valves of a power of 150 - 200 W. The time relay is manufactured by the Leningradskiy optiko-mekhanicheskiy zavod LUMP (LUMP Optical-Mechanical

Card 1/2

S/194/62/000/007/029/160
D295/D308

Time relay

Plant, Leningrad). [Abstracter's note: Complete translation.]

Card 2/2

ZEL'DIN, Ye.A.

New version of the oscillographic method for frequency measurement. Izm.tekh. no.5:52-53 My '63. (MIRA 16:10)

ZEL'DIN, Ye., inzh. (g.Leningrad)

Electronic stroboscope using a pulse tube. Radio no.2:41-42 F '62. (MIRA 15:1)

(Stroboscope)

BIRBAIR, M.L.; ZEL'DIN, Ya.M.

Errors of the medical working ability expertise in diseases of the cardiovascular system. Zdrav.Bel. 8 no.11:63-65 N '62. (MIRA 16:5)

1. Vitebskaya oblastnaya vrachebno-trudovaya ekspertnaya komissiya (predsedatel' Ye.A. Khrapunovich) i kafedra fakul'tetskoy terapii Vitebskogo gosudarstvennogo meditsinskogo instituta (zav. - prof. A.M. Davydov).

(CARDIOVASCULAR SYSTEM--DISEASES) (DISABILITY EVALUATION)

KREYTSER, A.G.; ZEL'DIN, Ye.A.

Combined wxyhemometer O-57. Med.prom. 14 no.11:50-54 N '60.
(MIRA 13:11)

1. Mediko-instrumental'nyy zavod "Krasnogvardeyets."
(BLOOD--OXYGEN CONTENT)
(MEDICAL INSTRUMENTS AND APPARATUS)

ZEL'DIN, Ye.A.; KREYTSER, A.G.

Oxyhemograph. Radio no.7:56-57 Jl '57. (MIRA 10:8)
(Physiological apparatus) (Electronic instruments)

ZEL'DIN, Ye.A.

Simple circuit of an electronic stroboscope. Priborostroenie no.3:22-23 Mr '63. (MIRA 16:6)
(Stroboscope)

ZEL'DIN, Ye.A.

107-57-7-49/56

AUTHOR: Zel'din, Ye.A. and Kreytner, A.G.

TITLE: Oxyhemometer (Oksigemometr)

PERIODICAL: Radio, 1957, Nr 7, pp 56-57 (USSR)

ABSTRACT: An oxyhemometer is an instrument for photoelectric measurement of oxygen saturation of human arterial blood. The instrument described below differs from older types in its better operational characteristics, simplified circuit, smaller size (210x180x225 mm), and smaller weight (3 kg). An indirect method of measurement is used: a section of the pinna of the ear is transilluminated by two small light beams, red and infrared, and light absorptions are compared by means of two miniature photocells. The absorption of red rays depends on the color (i.e., oxygen content) of the blood, on the thickness of the pinna, the fill of blood vessels, and other factors. The absorption of infrared rays depends on all the above factors except the color of blood. A bridge-type circuit involving a double-triode 6N15P tube compares the output voltages of both photocells in such a way that a voltage proportional to their difference is applied to an indicating instrument. The scale of the instrument is calibrated directly in % of oxygen blood saturation. A selenium photocell and a type FESS-U-1 sulfurous-silver cell are used for red and infrared rays respectively. Type 6Ts4P tube is used as power-supply rectifier. A ferroresonance voltage-stabilized transformer delivers practically constant output voltage with any a-c input voltage between 100 and 240 v. Power consumption 25 w.

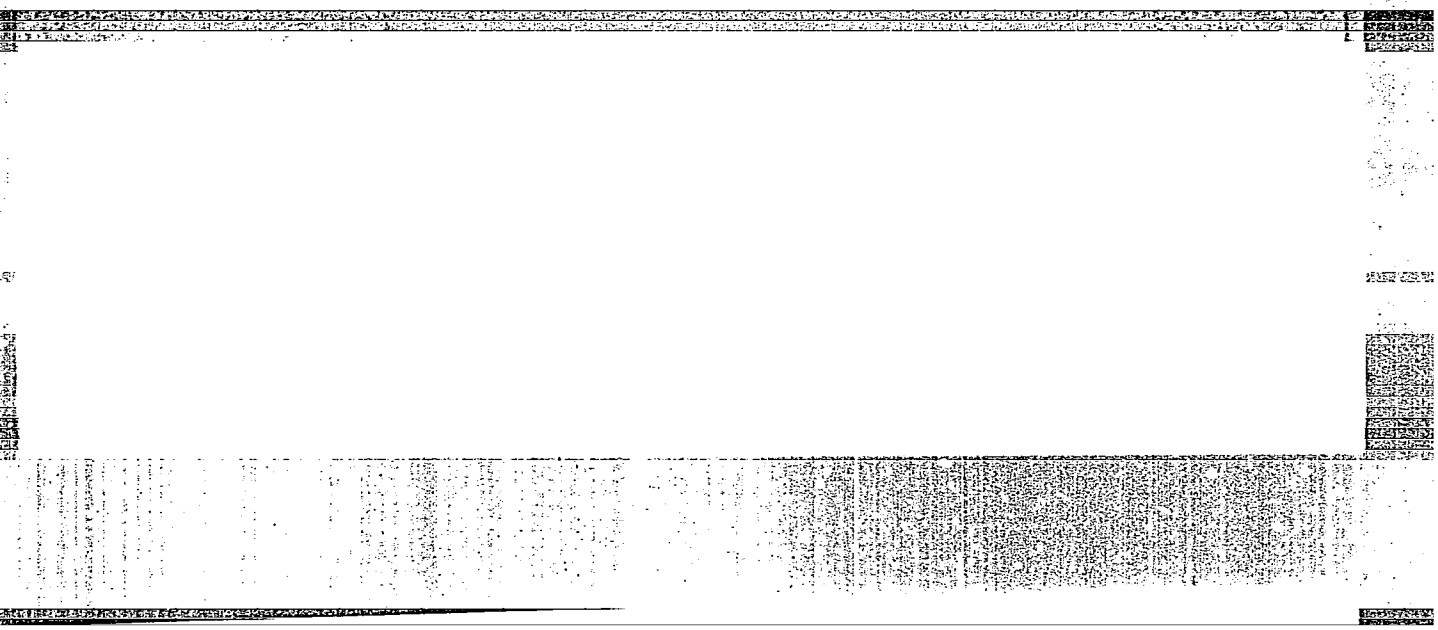
Card 1/2

Oxyhemometer 107-57-7-49/56

One circuit diagram is shown, constructional features are given, and a specification of parts is provided.

AVAILABLE: Library of Congress

Card 2/2



APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001964220009-8"

KREYTSER, A.G.,; ZEL'DIN, Ye.A.

New oxygenometer. Med. prom. 10 no.1:41-42 Ja-Mr '56 (MLRA 9:6)

1. Mediko-instrumental'nyy ordena Lenina zavod "Krasnogvardeyets".
(PHYSIOLOGICAL APPARATUS) (OXYGEN)

BOL'SHAKOV, V.M.; ZEL'DIN, Ye.S. [deceased]; MINTS, R.P.; PUFAYEV, N.A.

Dynamics of an oscillator - rotor system. Izv. vys. ucheb. zav.; radiofiz. 8 no.2:359-371 '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy fiziko-tekhnicheskiy institut pri Gor'kovskom universitete.

KON'KOV, Aleksey Ivanovich; ZEL'DIN, Yuliy Rafailovich; KURGIN, Yuriy Mikhaylovich; KOZLOVSKIY, Sergey Dmitriyevich; KON'KOVA, Maya Borisovna; SUDNOV, Konstantin Dmitriyevich; BELEN'KIY, L.I., retsenzent; ABRAMOV, S.A., retsenzent; ZELENSKAYA, G.G., retsenzent; SIBIRTSEV, S.L., retsenzent; VERBITSKAYA, Ye.M., red.

[Equipment for the finishing operations in the textile industry] Oborudovanie otdelochnogo proizvodstva tekstil'noi promyshlennosti. Moskva, Legkaia industriia, 1964. 417 p. (MIRA 18:1)

ZEL'DIN, Yu.R.

Speed ranges of spindle performance. Tekst.prom. 16 no.7:65-66 Jl '56. (MLRA 9:8)

(Spinning machinery)

AKIM, L.Ye.; GEYSBERG, S.M.; TAIMUD, S.L.; Prinimali uchasti ye: YEL'NITSKAYA, Z.P., mladshiy nauchnyy sotrudnik; ZEL'DINA, A.Ye., mladshiy nauchnyy sotrudnik; MEL'CHAKOVA, N.A., mladshiy nauchnyy sotrudnik; BLINOV, Ye.P., starshiy laborant; BOGDANOVSKAYA, M.K., starshiy laborant

Obtaining viscose cellulose for the production of staple rayon with complete elimination of the stage of hot alkaline refining of the woodpulp. Trudy LTITSBP no.13:8-15 '64. (MIRA 18:2)

KURTSIN, I. T.; ZELDINA, A. M.; GOLFMAN, A. E.; et al

Nervino-Gumoralnye Peguliatsii Deiatelnosti Pishevaritelnogo Apparata (Neuro-Humoral Regulative Activity of Digestive Apparatus), 304 p., Moscow, 1949.

TALMUD, S.L.; ZEL'DINA, A.Ye.; GUREVICH, R.I.

Preparation of sulfite viscose. Zhur. prikl. khim. 33 no.9:2112-2118 S '60. (MIRA 13:10)

1. Leningradskiy tekhnologicheskiy institut tsellyulozno-bumazhnoy promyshlennosti.

(Viscose)

TALMUD, S.L.; ZEL'DINA, A.Ye.

Production of sulfide rayon pulp. Trudy LTITSBP no.12:95-115 '64.

Determining the amount of resin dissolved in the cooking liquors of sulfite pulp production. Ibid.:126-129

(MIRA 18:8)

TAIMUD, S.L.; BAMDAS, T.G.; ZEL'DINA, A.Ye.

Obtaining sulfite viscose cellulose. Report No.1: Reactivity of cold-refined cellulose for viscose formation. Trudy LTITSBP no.13:16-20 '64. (MIRA 18:2)

ZEL'DINA, M.Yu.; ZEMANEK, Ye.N.; SERGEYEVA, A.N.; TURCHANINOVA, E.V.

Solar activity in 1951. Publ.Kiev.astron.obser.no.6:113-119 '54. (MLRA 9:4)
(Sun)

Zel'DINA, M. Yu.

ZEL'DINA, M.Yu.; ZEMANEK, Yo.N.; SEROSYEVA, A.N.

Observations of the solar photosphere and chromosphere at the Kiev Astronomical Observatory in 1942-1945. Trudy KAO 1:81-300 '56. (MLRA 10:9)
(Sun--Observations)

ZEL'DINA, M. YU.

15-57-5-6836

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 159 (USSR)

AUTHORS: Balabushevich, I. A., Zel'dina, M. Yu.

TITLE: The Solution of Direct and Inverse Problems of Gravimetry Along the Vertical Gradient for Disturbing Bodies of Simple Form (Resheniye pryamoy i obratnoy zadachi gravimetrii po vertikal'nomu gradiyentu dlya vozmushchayushchikh tel prosteyshey formy)

PERIODICAL: Publikatsiya Kiyevsk. astron. observ., 1956, Nr 7, pp 65-92.

ABSTRACT: The authors attempt to bring together in a single system the solutions of direct and inverse problems of gravimetry along the vertical gradient W_{zz}. The solution for the direct problem is examined, and also methods for solving the inverse problem for several bodies of the simplest form. The considered instances of solving direct and inverse problems of gravimetry

Card 1/2

15-57-5-6836

The Solution of Direct and Inverse Problems (Cont.)

along W_{zz} might also be used to a considerable degree in interpreting the magnetic field Z_a.

Card 2/2

A. L.

ZEL'DINA, M. Yu.

SERGEYEVA, A.N.; ZEL'DINA, M.Yu.

Chromospheric activity of the sun from 1948 to 1949. Publ. Kiev. astron. obser. no.7:95-104 '56. (MLRA 9:12)

(Sun--Prominences)

ZEL'DINA, M.Yu; ZEMANEK, Ye.N.; SERGEYEVA, A.N.

Observations of the sun's photosphere and chromosphere at the Astronomical Observatory of Kiev University in 1946-1950. Trudy KAO 2:3-468 '58. (MIRA 13:4)
(Sun)

BALABUSHEVICH, I.A.; ZEL'DINA, M.Yu.

Solution of the direct and inverse problem in the gravimetry according to the vertical gradient for perturbing bodies of simplest shape. Publ.KAO no.8:115-140 '59. (MIRA 14:9)
(Gravimetry)

S/035/62/000/004/011/056
A001/A101

AUTHORS: Yakovkin, N. A., Zel'dina, M. Yu.

TITLE: Determination of self-absorption in spectral lines of prominences

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 4, 1962, 53, abstract 4A429 ("Solnechnyye dannyye", 1960 (1961), no. 12, 67 - 71)

TEXT: Various methods of determining self-absorption in spectral lines of prominences are compared. The Conway method ("Contrib. Dun. Obs.", 1952, no. 3) is estimated to be the most accurate one. The authors developed a nomogram for this method. The description of the nomogram is presented. There are 8 references.

R. G.

[Abstracter's note: Complete translation]

Card 1/1

ZEL'DINA, M.Yu.; ZEMANEK, Ye.N.

Spectrophotometry of a sunspot. Mezhdunar.geofiz.god no.3:55-64 '61. (MIRA 14:10)

1. Astronomical Observatory of Kiyev University.
(Sunspots) (Spectrum, Solar)

YAKOVKIN, N.A.; ZEL'DINA, M.Yu.

The $H\alpha$ emission field in the prominences. Astron.zhur. 41 no.5:914-919 S-O '64. (MIRA 17:10)

1. Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta.

L 08922-67 EWT(1) GW

ACC NR: AR6025352 SOURCE CODE: UR/0269/66/000/004/0065/0065

AUTHOR: Yakovkin, N. A.; Zel'dina, M. Yu.

TITLE: Dependence of the Hα line form upon protuberance orientation

SOURCE: Ref. zh. Astronomiya, Abs. 4.51.488

REF SOURCE: Solnechnyye dannyye, no. 5, 1965, 50-54

TOPIC TAGS: ~~astronomy~~, solar prominence, ~~solar prominence spectrum~~, prominence solar spectrum, ~~spectral line data~~ solar photosphere, solar radiation scattering

ABSTRACT: Dependence of the profile of the Hα line in the spectrum of the protuberances upon protuberance orientation relative to the surface of the Sun and the line of vision is investigated. It is assumed that the source of energy in Hα is the incoherent scattering of the photosphere radiation. The function $B(\tau)$ of the source was determined from the basic equation of the radiation diffusion theory for the following cases: 1) radial orientation of the protuberance; 2) protuberance parallel to the Sun's surface; 3) protuberance plane inclined 30° to the photosphere plane; and for τ_0=1; 10; 100. It is shown that in case of a radial distribution, $B(\tau)$ has a maximum in the protuberance central region; and in the two other cases, the maximum is situated near the boundary directed toward the surface of the Sun. The computed source functions were utilized for the determination of the Hα line profiles. It is shown that the multiplicity of forms of the Hα line is connected with differences of optical thickness and

UDC 523.77

Card 1/2

L 08922-67

ACC NR: AR6025352

the doppler widths, as well as with protuberance orientation relative to the Sun's surface and the line of vision. [Translation of abstract].

SUB CODE: 03

Card 2/2

L 27047-66 EWT(1) GS/GW

ACC NR: AT6014845 SOURCE CODE: UR/0000/66/000/000/0036/0047

AUTHOR: Zel'dina, M. Yu.; Sergeyeva, A. N.

ORG: none

TITLE: Results of spectrophotometry of several prominences

SOURCE: AN UkrSSR. Voprosy astrofiziki (Problems in astrophysics). Kiev, Izd-vo Naukova dumka, 1966, 36-47

TOPIC TAGS: astrophysics, solar astronomy, solar chromosphere, solar prominence

ABSTRACT: The authors have processed spectrograms of four bright prominences whose spectra contain all the lines in the Balmer series from H to H_{12}—H_{20} inclusive, and many helium and metal lines. The date of observation, legal time of observation, position angle calculated from the northern pole of the Sun, brightness, distance of the photometric section from the edge of the disk, and the characteristic of atmospheric transparence at the moment of observation are indicated in a table. Results of processing observations of all emission lines include for each prominence: central intensities related to the continuous spectrum of disk center, full half-widths, reduced Doppler half-widths, equivalent widths of the continuous spectrum of disk center, and the number of excited atoms in the line of sight. Self-absorption causes

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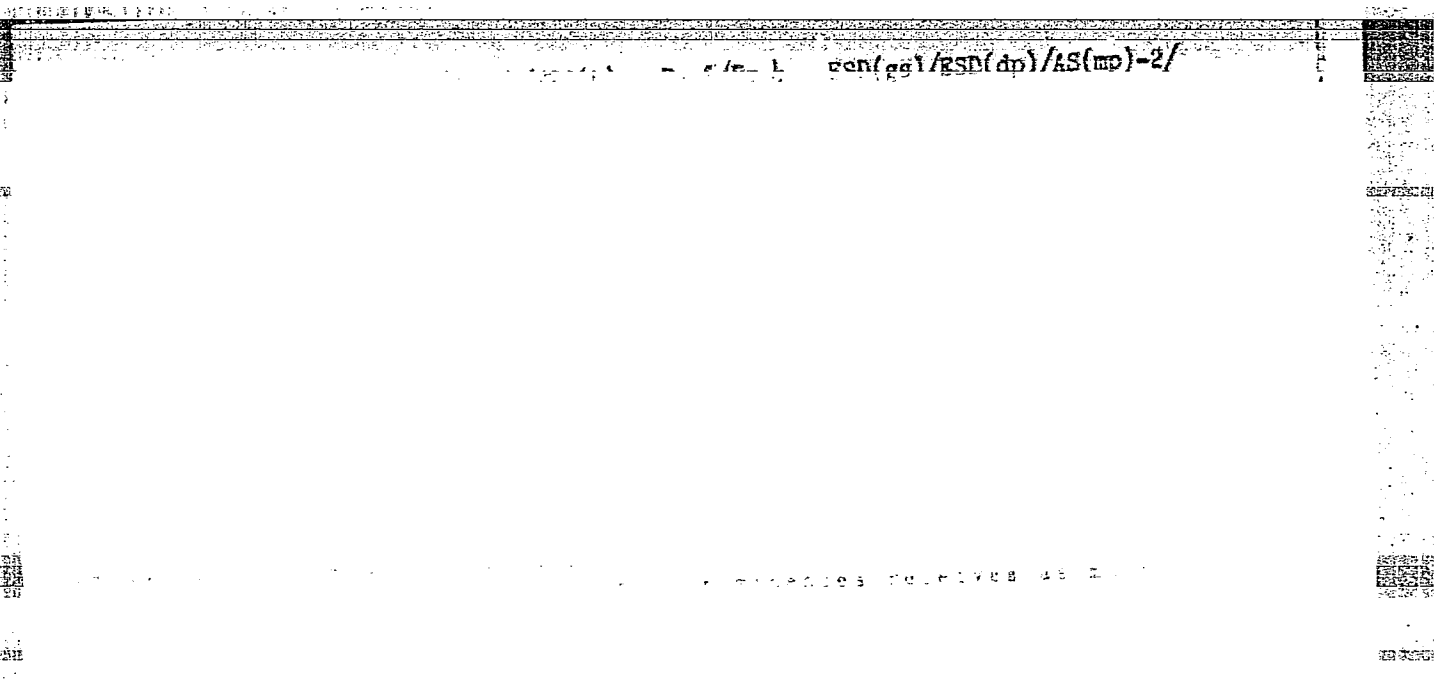
L 27047-66

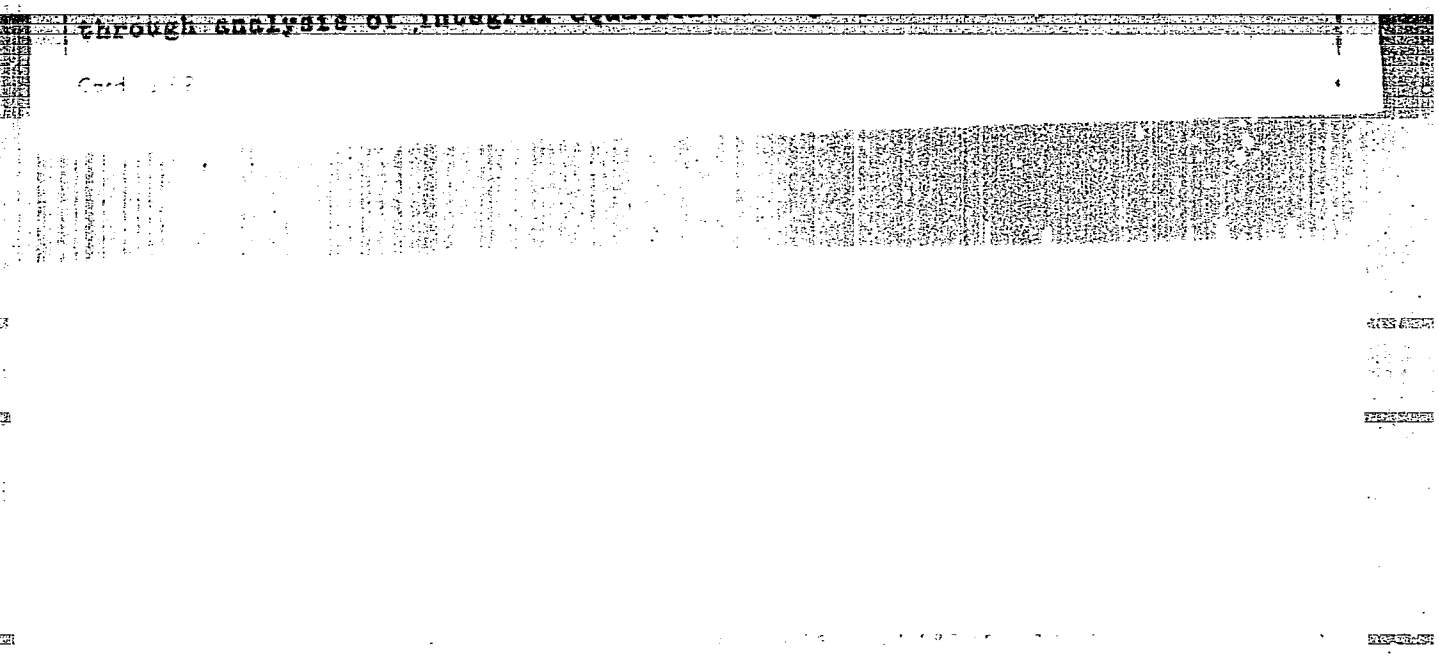
ACC NR: AT6014845

fading of all lines of the Balmer series. The atomic population of prominences is determined from the optical depth and is found to be $4.2 \cdot 10^{13}$ to 10^{14}. Orig. art. has: 3 figures and 4 tables. [JJ]

SUB CODE: 03/ SUBM DATE: 22Jan66/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4254

Card 2/2





ACCESSION NR: AP4032727 S/0033/64/041/002/0336/0343

AUTHOR: Yakovkin, N. A.; Zel'dina, M. Yu

TITLE: Excitation and ionization of hydrogen in prominences

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 2, 1964, 336-343

TOPIC TAGS: astronomy, sun, solar activity, hydrogen ionization, solar prominence, solar photosphere, solar radiation, ionization recombination mechanism, solar flare

ABSTRACT: It is shown that the ionization of hydrogen atoms occurs as a result of absorption of the Balmer continuum ($T = 5700C$). The principal source of electrons is the second quantum level ($n_2 = 3 \cdot 10^4$, $n_e = 4 \cdot 10^{10}$). For estimation of electron density it is convenient to use the formula

$$n_e = 3 \cdot 10^8 \sqrt{n_2}\,.$$

If the temperature of Ly-α radiation in a prominence is $\sim$7500C, the population of the first level will be about 10^{11} and the degree of ionization of hydrogen is $\sim$30%. The luminescence of prominences in the first lines of the Balmer series is caused by the resonance scattering of photospheric radiation. The

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ACCESSION NR: AP4032727

temperature of excitation of the corresponding levels is dependent on the dilution factor and the central intensities of Fraunhofer lines. The populations of the higher levels of the hydrogen atom are determined by the ionization-recombination mechanism. It is found that numerically they are equal to the populations at resonance scattering of solar radiation. It therefore follows that the surface brightness of a prominence always is lower than the surface brightness of the solar disc in this same line. If the formation has a greater brightness it should be considered a flare instead. Orig. art. has: 13 formulas, 9 figures and 3 tables.

ASSOCIATION: Astronomicheskaya observatoriya Kiyevskogo gosudarstvennogo universiteta (Astronomical Observatory of Kiev State University)

SUBMITTED: 20Aug62 DATE ACQ: 11May64 ENCL: 00

SUB CODE: AA AP4032727 NO REF SOV: 007 OTHER: 003

Card 2/2

YAKOVKIN, N.A.; ZEL'DINA, M.Yu.

Spectrophotometric investigation of four bright prominences.
Astron. zhur. 40 no.5:847-854 S-O '63. (MIRA 16:11)

1. Kiyevskaya astronomicheskaya observatoriya.

ACC NR: AP7001424 (A) SOURCE CODE: UR/0413/66/000/021/0141/0141

INVENTORS: Saksaganskiy, T. A.; Shandorov, G. S.; Tokar', I. P.; Stipura, A. P.; Shipitsyn, V. M.; Zol'dina, T. S.; Yurchenko, N. P.

ORG: none

TITLE: A method of testing hollow products for hermetic seal and for strength. Class 42, 188094 [announced by All-Union Scientific Research, Construction, and Engineering Institute of the Pipe Industry (Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorsko-tekhnologicheskiy institut trubnoy promyshlennosti)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 141

TOPIC TAGS: liquid gas container, liquid nitrogen, hermetic seal, pipe, static test, test method

ABSTRACT: This Author Certificate presents a method of testing hollow products for hermetic seal and for strength. The method involves filling a hollow product with water and connecting it to a working cylinder in which the necessary pressure is produced. To create high testing pressures, liquid gas, such as nitrogen, is introduced into the cylinder. This gas, while vaporizing, creates the necessary testing pressure. The intensity of this pressure depends on the amount of the introduced gas and on the rate of its vaporization. The working cylinder may be partly filled with water which forms an ice layer when some of the liquid gas is introduced. A

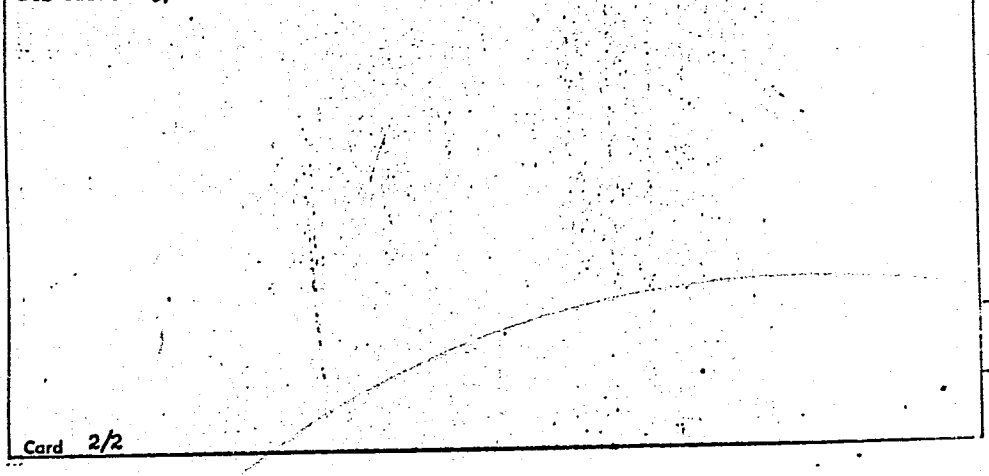
UDC: 620.165.29:620.178

Card 1/2

ACC NR: AP7001424

measured amount of liquid gas is then poured onto the ice layer. To create a testing pressure higher than 800 kg/cm^2, the working cylinder may be fully filled with liquid gas and then chilled by being submerged in a bath of the same liquid gas.

SUB CODE: 13/ SUBM DATE: 02Jul65



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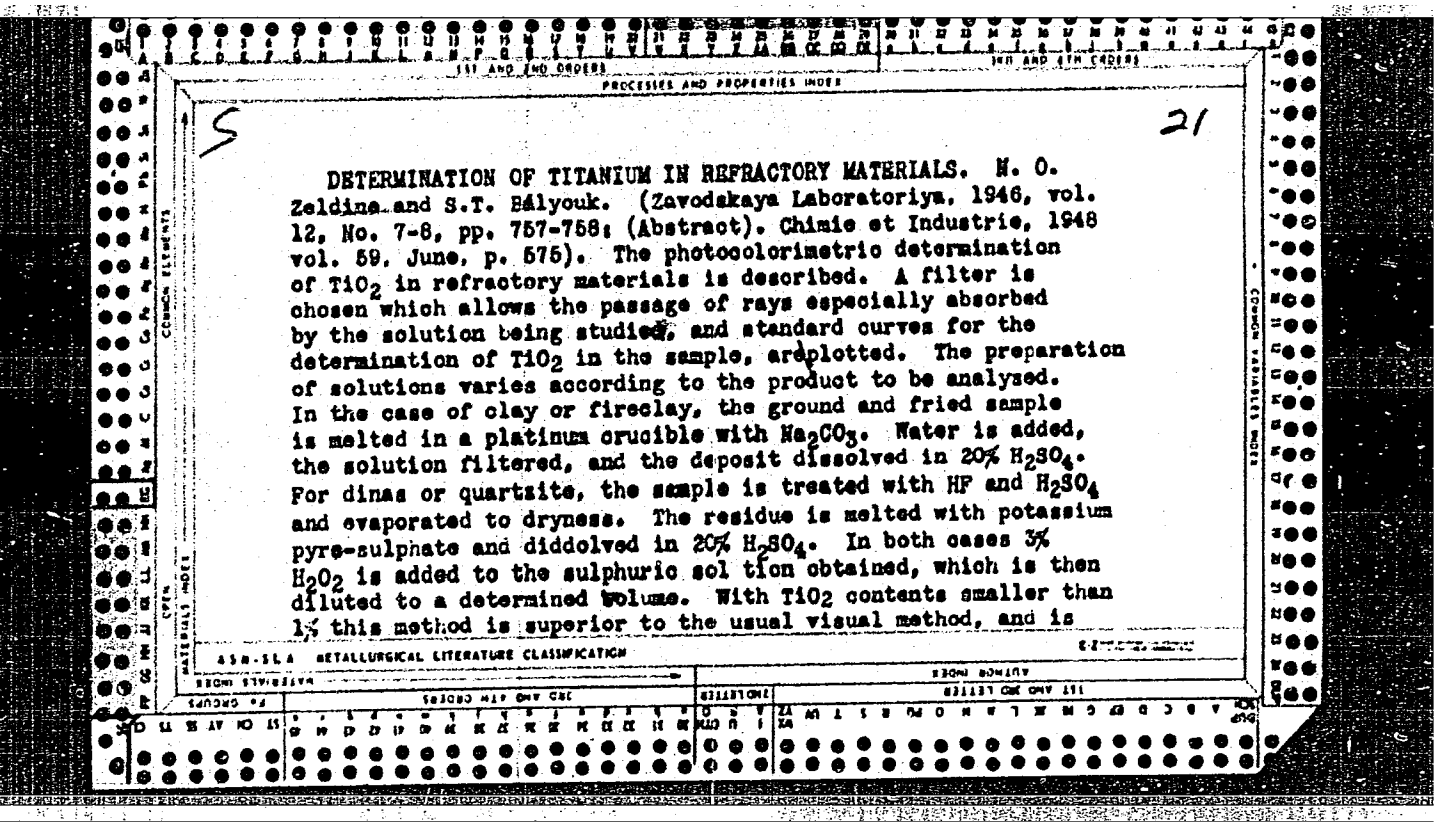

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21

DETERMINATION OF TITANIUM IN REFRACTORY MATERIALS. M. O. Zeldina and S.T. Bályouk. (Zavodskaya Laboratoriya, 1946, vol. 12, No. 7-8, pp. 757-758; (Abstract). Chimie et Industrie, 1948 vol. 59, June, p. 575). The photocolorimetric determination of TiO_2 in refractory materials is described. A filter is chosen which allows the passage of rays especially absorbed by the solution being studied, and standard curves for the determination of TiO_2 in the sample, are plotted. The preparation of solutions varies according to the product to be analysed. In the case of clay or fireclay, the ground and fried sample is melted in a platinum crucible with Na_2CO_3. Water is added, the solution filtered, and the deposit dissolved in 20% H_2SO_4. For dinas or quartzite, the sample is treated with HF and H_2SO_4 and evaporated to dryness. The residue is melted with potassium pyro-sulphate and diddolved in 20% H_2SO_4. In both cases 3% H_2O_2 is added to the sulphuric sol tion obtained, which is then diluted to a determined volume. With TiO_2 contents smaller than 1% this method is superior to the usual visual method, and is

SHCHERBAK, N.; ZEL'DIS, G.

Students take part in technical creative activity. Avt.transp. 41 no.4:49-50 Ap '63. (MIRA 16:5)
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Automation of the washing and drying of passenger cars. Avt.transp. 39 no.1:16-20 Ja '61. (MIRA 14:3)
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1. Iz kliniki ortopedii i travmatologii (ispolnyayushchiy obyazannosti zaveduyushchego - kand.med.nauk A.I. Rozentsvit) Odesskogo meditsinskogo instituta im. N.I. Pirogova (dir. - prof. I.Ya. Deyneka).
(HALLUX, ther.
valgus, conservative ther. using plastmass pads (Rus))

USSR/Forestry - Forest Cultivation. K-5

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39117

Author : Ol'shanskiy, M.A., Zeldman, D.P., Zheleznov, G.F.
Inst : -
Title : Progress in Theory and Practice of Field Protection of Forest Cultivation. (Results Produced by Cluster Planting of Oak in Experiment Institutions after a Period of 8 Years).

Orig Pub : Agrobiologiya, 1957, No 4, 79-108.

Abstract : The state of oak cluster planting on 458 forest strips (laid in 1949 and 1950), according to data obtained from 64 experiment agricultural institutions, is described. The forest strips are located in 30 oblasts of the RSFSR, Ukraine and Moldavia.
It is indicated that no deterioration in the quality of plantations, based on the growth of the intra species rivalry was noticed.

Card 1/2

MALKOV, M.P.; ZELDOVIC, A.G. [Zel'dovich, A.G.]; FRADKOV, A.B.; DANILOV, I.B.; ZOCH, O. [translator]

Industrial separation of deuterium by low-temperature distillation. Jaderna energie 4 no.11:344-351 N '58.

S/056/62/043/005/057/058
B125/B104

AUTHOR: Zel'dovich, A. B.

TITLE: The creation of stars in an expanding universe

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1982-1984

TEXT: The present study shows that an expanding cold matter (hydrogen) will disintegrate into pieces or drops after having reached the normal density of the condensed phase (0.07 g/cm^3). These drops are distributed throughout space, and space between them is filled with gas of low density. The deviations of the density from its mean increase as compared with the estimate $1/\sqrt{N}$ for independent nucleons as a result of the Van der Waals molecular attraction. The increase in the perturbances computed by Ye. M. Lifshits (ZhETF, 16, 587, 1946) is due to gravitation and is sufficient for the stars to separate if the phase transitions are taken into account. At normal pressure (0.07 g/cm^3) the density of solid hydrogen is reached at t=3200 sec if $\rho = 0.8 \cdot 10^6\ t^{-2}$ holds for the time dependence

Card 1/3